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LOUISE PLANNING DISTRICT

BACKGROUND STUDY

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EXECUTIVE SUMMARY

Introduction

- this study has been prepared to provide the background data and information for the drafting of a Development Plan for the Louise Planning District
- the municipality is especially concerned with the preservation of its dominant agricultural character
- the findings of the study are based on the assumption that the Rock Lake Oil Seeds Plant will not be going ahead

Socio-Economic Profile

- the total population of the District is presently about 2500 with an expected decrease of approximately 300 over the next 20 years
- a stable rate of new household formation and a decrease in the number of persons/household will create a demand for approximately 3-5 new units/year in the urban centres
- the debt ratios of the three municipalities are well within the guideline of 30% (of local equalized assessment) leaving each with sufficient financial capacity to carry a higher debt load

Urban Centres

- the urban centres generally serve as agricultural service centres
- future development areas have been determined for the urban communities but development of some may require installation and/or upgrading of municipal infrastructure

Transportation Network

- the development of a safe, convenient and efficient network of roads that are able to move people, goods and services relies heavily on suitable land use and road planning
- all Provincial Trunk Highways and Provincial Roads form important highway corridors in this part of the province

Agricultural Resources

- the majority of the land in the municipality is in the Class 2 and 3 soil types which have moderate limitations that restrict the range of crops
- average farm size has grown while the number of farms has been decreasing
- protection of the agricultural industry and the land upon which it is dependent from encroachment by non-farm uses is imperative
- preserve prime agricultural lands for farming
- keep land in large blocks to allow economical farming

Natural Resources

- groundwater is readily available throughout the district ranging from fair to saline in quality, however, the materials that form aquifers are at or near ground surface and are subject to pollution
- lands in the district which have a good suitability for outdoor recreation are very limited
- the most significant fisheries waters are Goudney (Pilot Mound) Reservoir, the Pembina River and Swan Lake
- there are approximately 910 hectares (2250 acres) of Crown Lands in the district most of which are committed to wildlife purposes

PREFACE

This Background Study has been prepared as the first step in the planning process for the Louise Planning District. The District was formed in 1986 in an effort to provide joint planning for the area on a cost-shared basis between the three municipalities involved - the R.M. of Louise, the Village of Pilot Mound and the Village of Crystal City. The Background Study will provide the background data and information for the preparation of a Development Plan for the Planning District; the second step in the planning process. It will outline policies to guide development decisions for the area. The third step will be the preparation and adoption of a Zoning By-law to implement the policies given in the Development Plan. It will act as the administrative document regulating land use and subdivision review.

As a preliminary study to the Development Plan, this background report was prepared to cover issues of concern to the Planning District Board. It will assist them in making sound policy decisions for the future of the area and its people. Topics discussed include:

- physical characteristics
- population profile
- municipal financial information
- economic base studies
- urban and rural land use
- agricultural and natural resources
- transportation networks

On October 9, 1986 a meeting of the Louise Planning District Board was held to prepare a list of issues that the Board felt should be dealt with in the Development Plan. The list was obtained through a Nominal Group Technique which is described in Appendix A, followed by a list of planning issues in their order of priority.

LIST OF ACKNOWLEDGEMENTS

This report has been prepared by the Morden Field Office, Municipal Planning Branch, Department of Municipal Affairs, Province of Manitoba and is meant to provide background planning and research information for the Development Plan and Zoning By-law of the Louise Planning District.

The Municipal Planning Branch would like to thank the following government departments and agencies who have contributed data and information to this study:

Department of Agriculture
Department of Natural Resources
Water Resources Branch
Historic Resources Branch
Department of Highways and Transportation
Environment Canada
Manitoba Hydro
Environmental Control Branch
Mines Branch
Statistics Canada

In addition, Councillors and staff of the R.M. of Louise and the Villages of Pilot Mound and Crystal City have been of assistance. The engineering firm of Reid Crowther and Partners Limited was commissioned to prepare a municipal engineering background study which forms a supplementary report to this study.

INTRODUCTION

1.1 LOCATION

The Louise Planning District includes the Rural Municipality of Louise, the Incorporated Villages of Crystal City and Pilot Mound and the Unincorporated Village of Clearwater. The District is located approximately 193 kms. southwest of Winnipeg via P.T.H. #3 in a primarily agricultural area of South Central Manitoba.

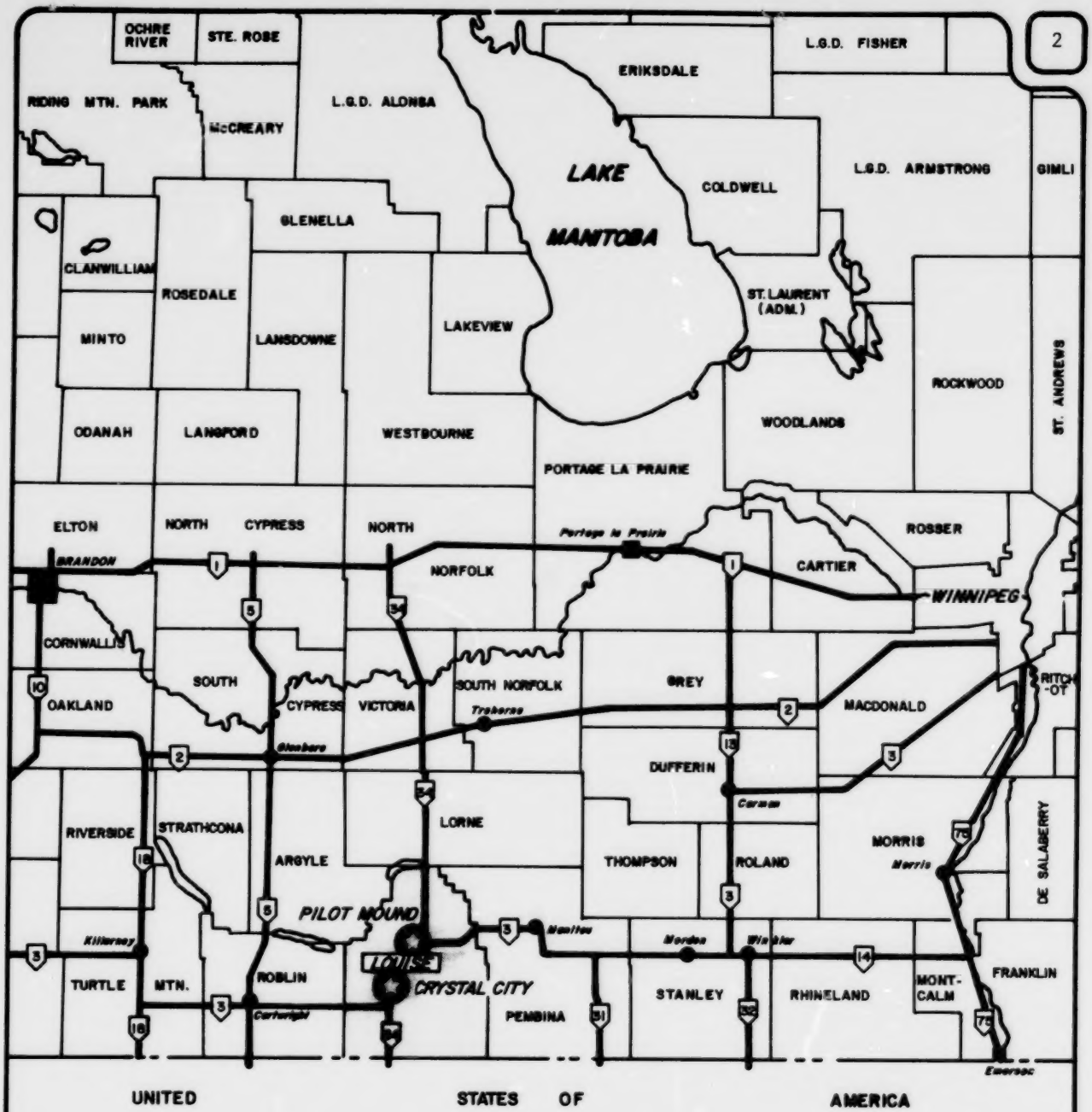
The rural population surrounding Pilot Mound and Crystal City depend upon the villages for their agricultural service needs in both grain and livestock operations. The fertile soils in combination with a gently rolling topography provide the area with excellent farming conditions. Recent years have seen an increase in the planting of special crops and intensive farming with the growth of dairying, hog raising and beef cattle production operations.

Local recreation opportunities are available at the Holiday Mountain Ski Resort at nearby La Riviere in the winter while the nearby parks and recreation areas at Spruce Woods, Rock Lake and Turtle Mountain provide the environment for outdoor activities.

Provincial roads provide local connections mostly within the Municipality and between smaller centres while P.T.H. #34 connects P.T.H. #3 with points north to the Trans-Canada Highway (P.T.H. #1) and south to the United States. P.T.H. #3 which traverses the district, extends north to Winnipeg and west to the Saskatchewan border. The Canadian Pacific Railway passes through the District serving freight rail requests and Grey Goose Bus Lines dispatches 2 buses daily for passengers.

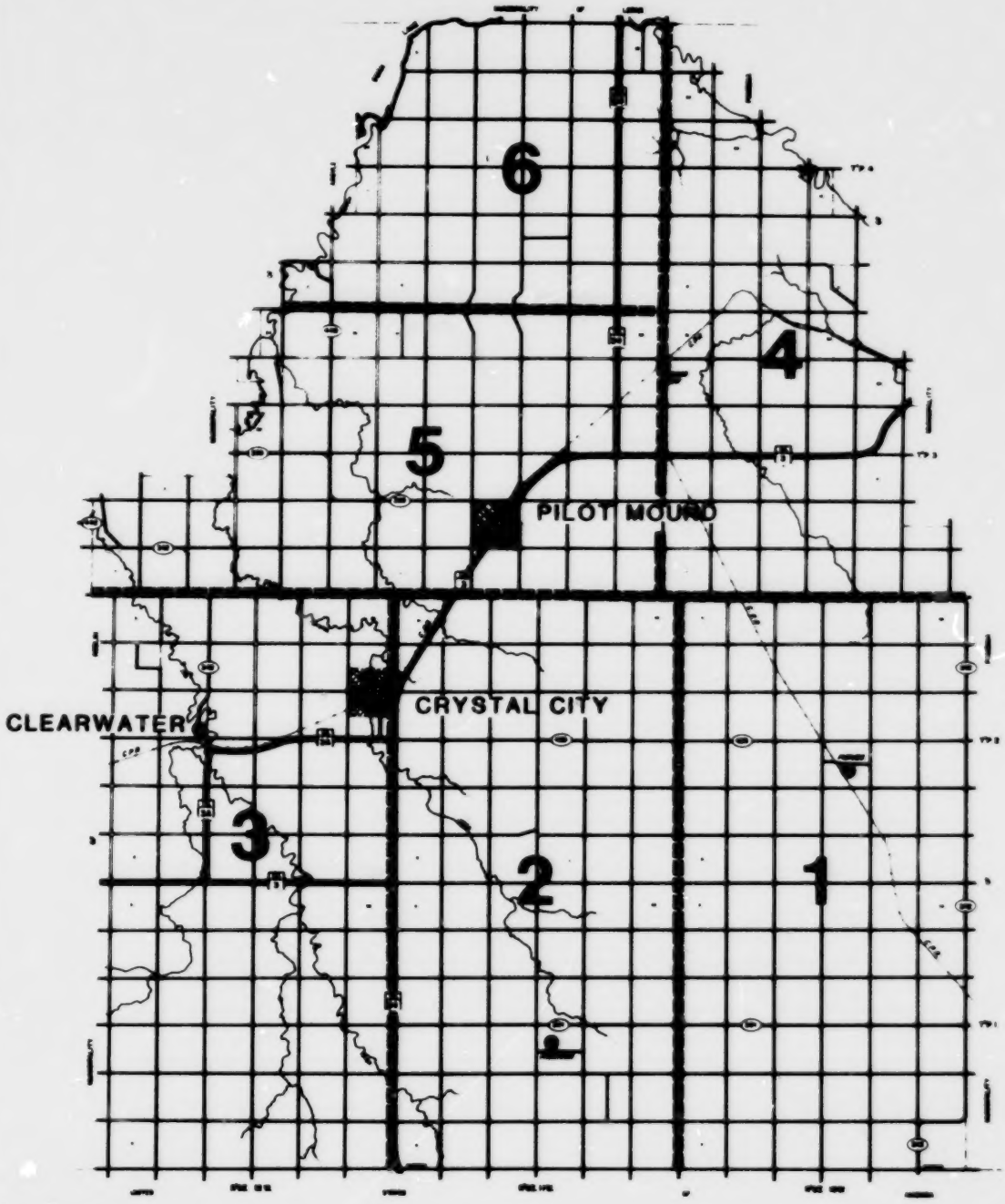
1.2 PHYSICAL CHARACTERISTICS

The Louise Planning District area is situated in a part of the Province of Manitoba which was once covered by glaciers and subsequently glacially-formed lakes. The recedings of the waters left behind fertile agricultural soils in southern Manitoba. Under the Canada Land Inventory system, Class 2 soils have moderate limitations that restrict the range of crops. The majority of land within the R.M. of Louise (58%) is made up of this soil classification. Another 29% of the area falls into Class 3 soils which have moderately severe limitations for agricultural use. The northern portion of the municipality is bordered by Swan Lake and the Pembina Valley which account for deviations in the gently rolling topographic characteristics of most of the district. Crystal Creek, Long River and Pilot Creek are the three major drainage systems within the municipality all flowing northwest into the Pembina River. (see Figure 1).



LOCATION MAP

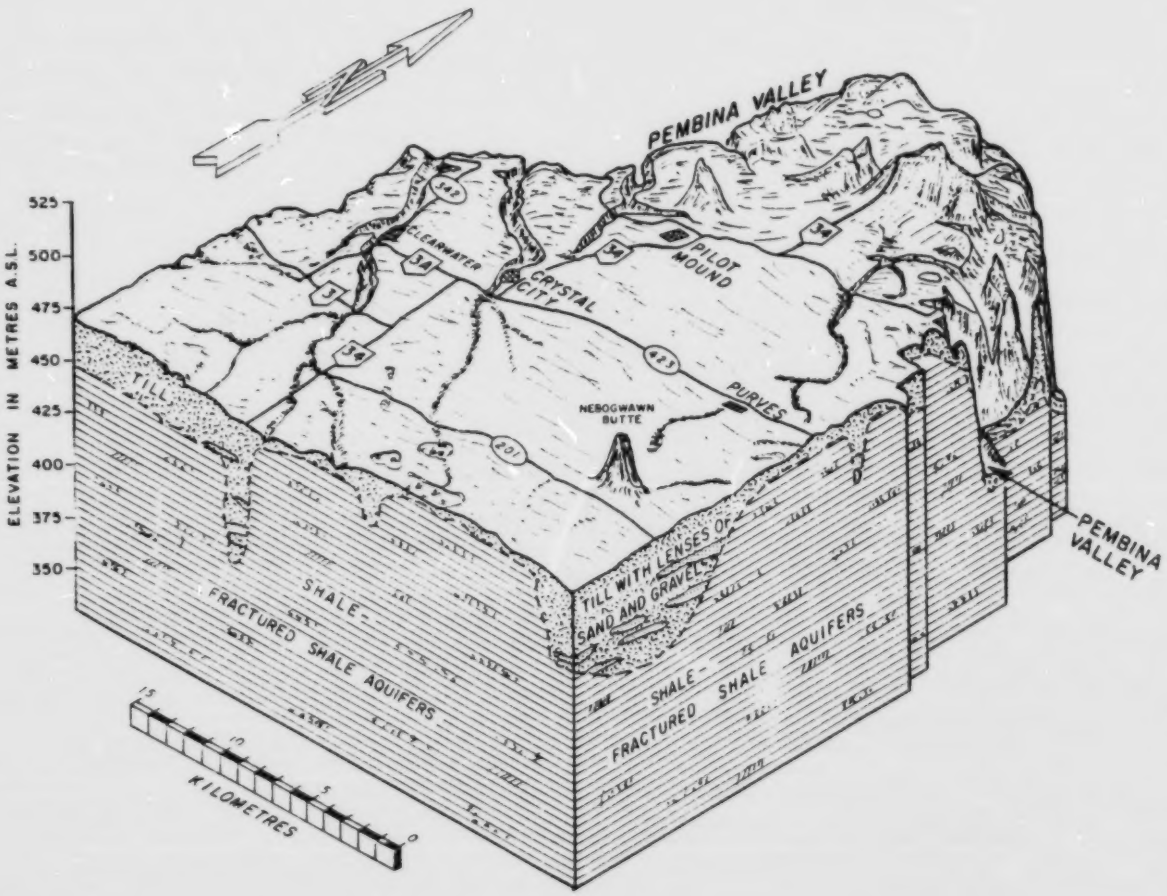
Map No. 1



LOUISE PLANNING DISTRICT

WARD BOUNDARIES

Map No. 2



TOPOGRAPHIC AND SUBSURFACE FEATURES

R.M. OF LOUISE

Figure 1

Source: MANITOBA NATURAL RESOURCES (Water Resources)

Surface and subsurface geological features consist of black, medium-textured soils the result of glacial till deposits overlying shale bedrock. Aquifers can be located between 3-9m (10-30 ft.) below the ground surface in most areas of the municipality except in deep bedrock valleys. Where bedrock outcrops come closer to the groundlevel, groundwater has the potential of becoming polluted by infiltration.

1.3 CLIMATE

The R.M. of Louise is situated within the central Canadian prairies placing it in a continental climatic region characterized by long, cold winters and short, cool summers. Average maximum daily temperatures generally reach 25°C (77°F) in July with minimum temperatures around -23°C (-9°F) in January although extremes have been recorded as high as 38°C (100°F) and as low as -41°C (-41.8°F).

Total precipitation levels average 516mm (20.3") for the year including both rain and snow, with June and July being the months with the highest rainfalls at around 70mm (2.8") each. Snowfall is evenly distributed throughout the winter months with 20-25mm (.8" - 1") falling in each month between December and March. The Pilot Mound station records 115 days on average with precipitation throughout the year with approximately 75% falling as rain.

The favourable atmospheric conditions in this area of the country contribute to a long growing season making it condusive to both intensive and extensive agricultural practices. The growing season averages over 160 days with the frost-free period (where temperatures are above 0°C (32°F)) averaging over 90 days.

SOCIO-ECONOMIC PROFILE

2.1 DEMOGRAPHICS

The population of the Louise Planning District area was 2630 in 1981. The majority of the population is rural based with the remainder distributed between the Villages of Pilot Mound and Crystal City and to a lesser extent in Clearwater. According to 1981 census figures, approximately 49.5% of the district population resides in the R.M. of Louise while 18.6% live in Crystal City and 31.9% in Pilot Mound.

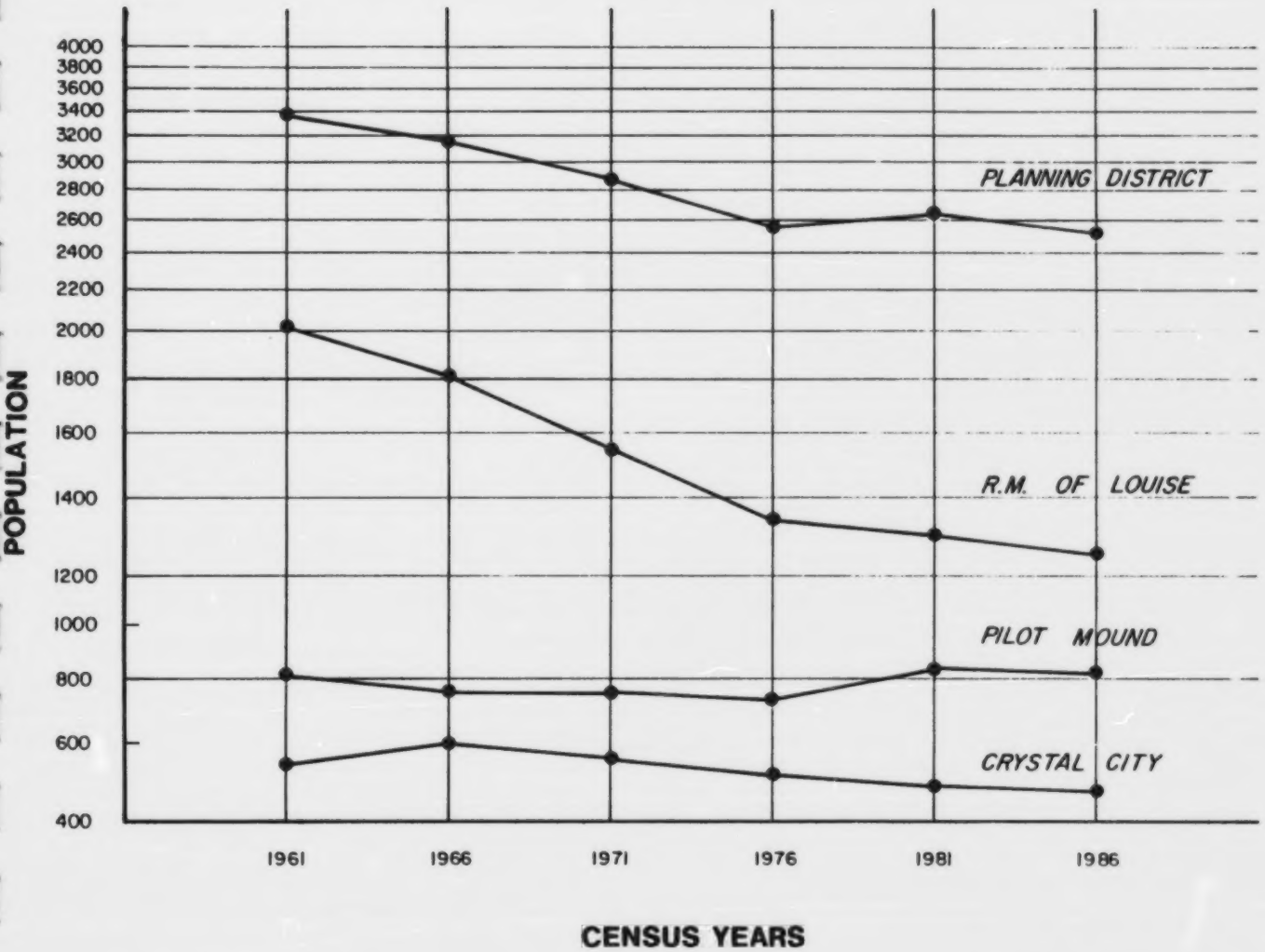
The following table shows census totals for the three municipalities and the planning district, starting in 1961, in five year intervals to 1986. It should be noted that the 1986 total is only an interim count. The final populations may differ slightly.

TABLE 1: CENSUS POPULATION FIGURES

	1961	1966	1971	1976	1981	1986
Pilot Mound	802	767	765	730	838	809
Crystal City	542	600	555	513	489	479
R.M. of Louise	2,017	1,806	1,556	1,343	1,303	1,254
Louise Planning District	3,361	3,173	2,876	2,586	2,630	2,542

Source: Statistics Canada

A study of the table and the accompanying line graph (Figure 2) reveals that the population of the R.M. of Louise decreased dramatically since 1961 from 2,017 to 1,254 in 1986. It would appear that this trend will continue. Population in the villages is more stable with Crystal City showing a small increase between 1961 an 1966 and a steady decline since that year. Pilot Mound exhibited a modest decrease from 1961 up until 1976 when it increased by approximately 100 persons in the 5 year period between 1976 and 1981, probably as a result of the major expansion of the local Senior Citizens Home. Since then the population has dropped off slightly. In the district as a whole, the population has been steadily declining with the exception of between 1976 and 1981. This variance is probably due to the corresponding increase in the population of the Village of Pilot Mound. The latest figure for 1986 again indicates the trend toward a declining area population.



Source: Statistics Canada

Figure 2: POPULATION 1961-1986

Figure #3 shows population pyramids for the R.M. of Louise, Pilot Mound and Crystal City as of 1981. These pyramids provide a graphic example of the number of persons in each age category by sex and are meant to illustrate in which age group the bulk of the population lies. The R.M. of Louise pyramid is wider than the other two because of the larger total population at 1,303 while Crystal City, with only 489 people, shows a "skinny" pyramid. A few points which may be noted from the pyramids are as follows:

1. All three municipalities have an equivalent percentage of males and females typical of most populations in developed countries. The R.M. of Louise contains approximately 55% male, 45% female; Pilot Mound 46% male, 54% female; Crystal City 49% male, 51% female.

2. Crystal City has almost the same number of persons in each age group by sex up until the age of 55 where the pyramid begins to expand. This distribution is representative of a population that is generally older, here 42.9% of the people are over the age of 55.

3. Pilot Mound provides a good illustrations of a population which contains a high number of persons over the age of 70 years. Although the 25-34 year age group is slightly larger than those in the younger categories, it makes up only 13.6% of the total population whereas the 70+ age group contains 25.1% of the population.

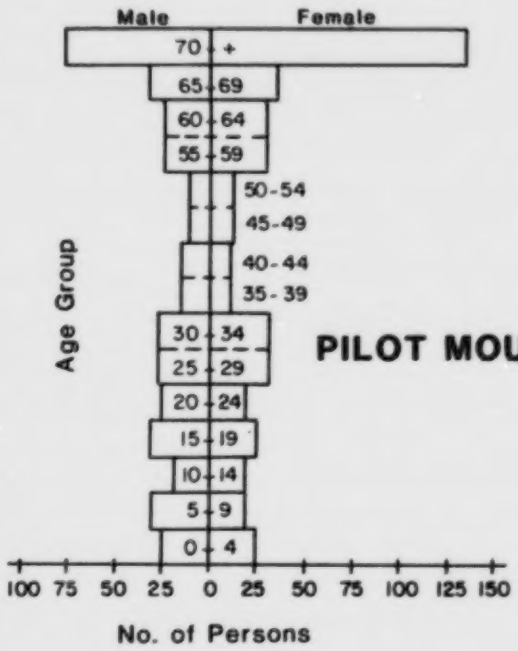
4. The shape of the R.M. of Louise pyramid represents a middle age population where the pyramid "bulges" in the middle. This generally means that the population is made up of people in the "employed" class - those in the age range from 20-64 years.

The following three tables show the average number of persons per household, the average number of persons per family and the average household income for the years 1971, 1976 and 1981 in the three municipalities. The average household income figures are not available (N/A) for 1976 because that information was not collected on the 5 year mini census forms.

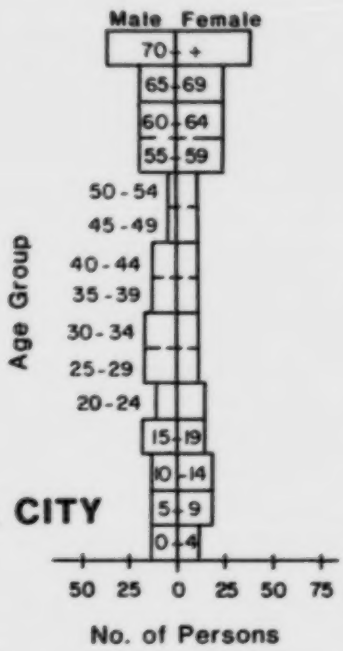
TABLE 2: AVERAGE NUMBER OF PERSONS/HOUSEHOLD

	1971	1976	1981
Manitoba	3.3	3.0	2.8
R.M. of Louise	3.6	3.3	3.1
Pilot Mound	2.7	2.3	2.3
Crystal City	2.9	2.4	2.3

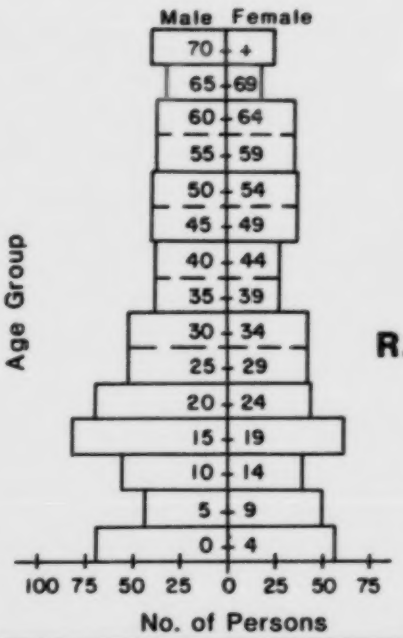
Source: Statistics Canada



PILOT MOUND



CRYSTAL CITY



R.M. OF LOUISE

POPULATION BY AGE & SEX

Source: Statistics Canada 1981

Figure 3

TABLE 3: AVERAGE NUMBER OF PERSONS/FAMILY

	1971	1976	1981
Manitoba	3.[illegible]	3.4	3.2
R.M. of Louise	3.91	3.6	3.5
Pilot Mound	3.12	2.9	2.9
Crystal City	3.44	3.0	2.8

Source: Statistics Canada

TABLE 4: AVERAGE HOUSEHOLD INCOME

	1971	1976	1981
Manitoba	$8,261	N/A	$21,721
R.M. of Louise	5,455	N/A	16,957
Pilot Mound	5,517	N/A	15,461
Crystal City	6,552	N/A	14,659

Source: Statistics Canada

In reference to the average numbers of persons per household, the R.M. of Louise consistently displays an average which is higher than the Manitoba norm while the two villages are lower. Since 1971 the overall trend has been a decrease by approximately .5 persons.

The average number of persons per family has also shown a continuing decline except for Pilot Mound where it has remained constant at 2.9 persons from 1976-1981. Family size has appeared to fall from an average of 4 persons to 2.8 persons and will probably remain close to this level in future years.

Average household income has shown a dramatic increase in the ten year span between 1971 and 1981, more than doubling for most areas and tripling in the R.M. of Louise.

2.2 POPULATION PROJECTION

There are a number of factors which should be taken into consideration when estimating future population for a community. In addition to the expected natural population growth, economic and social variables play a major role in the fluctuation of population figures. In an area like the Louise Planning District net decreases in one municipality may show up as net increases in another. That is, retiring farmers moving from the R.M. of Louise into one of the villages have the effect of reducing the population in the rural municipality while adding to it in one of the urban centres. Internal migration is one of the social factors which should be taken into account. Causes of migration may be dependent on "push or pull" factors and may include farm failures, new job opportunities, age and stage in the life cycle, anticipated profit or loss, house prices and inflation, to name a few.

Business and real estate development decisions may also have a large impact on the nature and amount of population growth in the Louise District. In particular, the proposed construction of the Rock Lake Oil Seeds Plant between the Villages of Pilot Mound and Crystal City and its accompanying 30-40 new jobs would probably affect the population of both villages and possibly even the R.M. of Louise. Job creation opportunities, whether full-time or part-time employment, may "pull" individuals and/or families into the area increasing the population dramatically.

One component of natural population growth which should be given special attention is the expected continued increase in the proportion of elderly people in our society. All across the country evidence has shown that the age group over 65 has been steadily becoming a larger percentage of our total population. This trend is visible from the population pyramids shown in Figure #3 where the "bulges" in the middle of the pyramids will move up within the next 25-35 years into the over 65 age group.

Based on the above factors, the following are some conclusions which may be drawn in predicting the future population of the Louise Planning District area:

1. Assuming that present trends continue:

   (a) the population of the Louise Planning District will continue to decline at a rate of approximately 100 persons every 5 years.
   (b) the population of the villages will decline at a slow rate. Young people just recently out of high school have a tendency to leave the small communities in pursuit of job opportunities but may then return as they reach a "family stage" in their life cycle or retirement age. With average family size slowly dropping, the rate of new household formation will be relatively stable and will not have a dramatic effect on the demand for new housing. On the other hand, the need for seniors housing and geriatric institutional care will probably rise especially in the urban centres.

(c) the population of the R.M. of Louise will continue to decline. Current studies show that the average farm size has been increasing in acreage while the number of farms has been consistently dropping. This trend indicates that the population of the municipality will continue to drop as fewer people are involved in farming.

2. If the Rock Lake Oil Seeds Plant proceeds then an increase in population should be expected and accommodated. Each of the villages should plan some residential expansion for approximately 15-20 new dwellings over the next 2 years. However, at the time of writing, it does not appear that the plant will be going ahead.

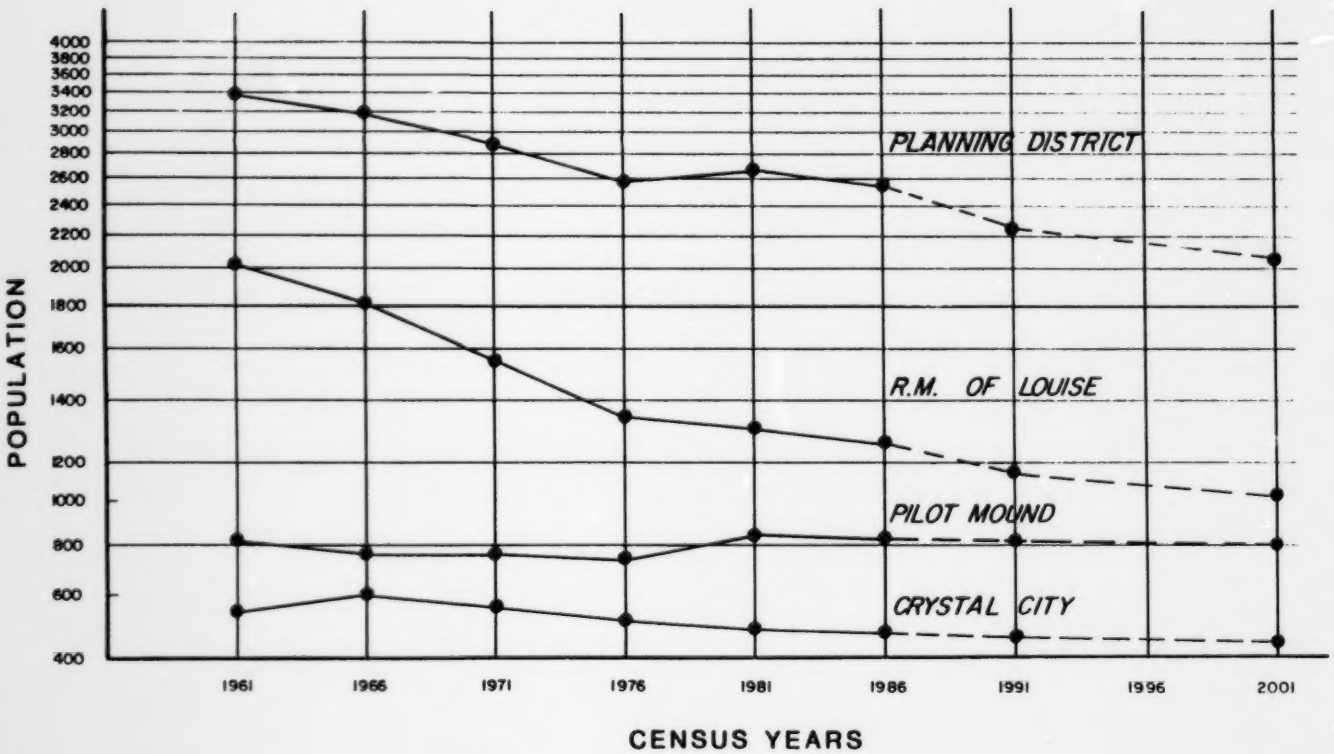
These anticipated trends would result in a population profile represented in the following table and graph:

TABLE 5: POPULATION PROJECTION

	1961[1]	1971	1981	1991[2]	2001
Pilot Mound	802	765	838	815	795
Crystal City	542	555	489	450	425
R.M. of Louise	2,017	1,556	1,303	1,165	1,010
Planning District	3,361	2,876	2,630	2,430	2,230

1. Source: Statistics Canada (for 1961, 1971, 1981 figures)
2. Projected figures for 1991 and 2001

Although the data indicates an overall population decrease for the 20 year projection, a demand for new housing will still exist as the rate of new households formed remains stable. This means that people may be moving out of the urban communities and population dropping but existing families will split up into smaller units as older children get married or leave the parental home. Thus there may be a demand for rental units and/or new homes at approximately 3-5 units required per year. By the year 2001, 100 new homes could be developed and serviced and the municipalities should expect to accommodate this increase.



Source: Statistics Canada
Projections: Manitoba Department of Municipal Affairs, Municipal Planning Branch

Figure 4: PROJECTED POPULATION 1991-2001

2.3 MUNICIPAL FINANCE ANALYSES

Planning for a community necessarily involves "change" usually in the context of a growth prediction. This may include new construction of community facilities like recreation centres, senior citizens' complexes or residential subdivisions and the purchase of new equipment. Development of this nature puts a financial burden on the municipality as it is requested to supply municipal infrastructure and servicing. When attempting to estimate future increases in population and demand for new commercial, industrial or residential development, the municipality must ensure that it will be able to meet its future responsibilities in terms of anticipated financial commitments. The following gives an analysis of the municipal financial situations for the rural municipality and the two villages to determine the affordability of each to raise the necessary capital in accommodating future needs. It provides an historical analysis of each municipal financial position as a means of projecting future trends.

Municipal Assessment Bases

The Municipal Assessment Branch of the Department of Municipal Affairs is responsible for the assessment of property values for all real property, personal property and business property within the R.M. of Louise and the Villages of Crystal City and Pilot Mound. Real property is made up of the land together with any buildings on that land. Business property pertains to the operation of a business on a particular piece of property. (Business assessments are made to the operator of a business on the site who may not necessarily be the owner of the property.) Personal property means goods and chattels and includes shares and stocks of corporations; plant and machinery; oil, natural gas and salt production equipment; and gas distribution systems.

The following tables show the assessment bases for the three municipalities by census years from 1971-1986. Personal property is negligible. Increases in the real property assessments (land and buildings) would illustrate an increase in new construction of residences and businesses. Differences in business assessments are indicative of the number of businesses existing in that particular year. Because the assessment base is utilized when calculating local taxation rates, a decline or increase in the total taxable assessments are an indicator of the economic capability of the municipality to support its expenditures assuming that no re-assessments have been done in the study period.

The "total taxable assessment" is the sum of land, building and personal property assessments. The "value of exemptions" totals all those properties exempted from municipal taxation. The "equalized assessment" is made up of the previous year's real property assessment plus all grant-in-lieu properties and adjusted trailer fees.

TABLE 6: ASSESSMENT BASES

	($000)			
	1971	1976	1981	1986
R.M. of Louise				
Land Assessment	7,152	7,081	7,511	7,471
Building Assessment	184	145	335	386
Personal Property Assessment	-	2	3	4
Total Taxable Assessment	7,337	7,228	7,850	7,861
Business Assessment	15	9	18	18
Value of Exemptions	96	118	1,194	2,869
Equalized Assessment	7,376	7,272	7,315	7,861
Village of Pilot Mound				
Land Assessment	177	192	228	225
Building Assessment	917	1,325	1,610	1,705
Personal Property Assessment	-	-	-	-
Total Taxable Assessment	1,094	1,518	1,838	1,930
Business Assessment	49	75	104	93
Value of Exemptions	233	420	452	468
Equalized Assessment	1,070	1,495	1,712	1,974
Village of Crystal City				
Land Assessment	110	115	141	143
Building Assessment	555	761	924	1,029
Personal Property Assessment	-	-	-	-
Total Taxable Assessment	665	876	1,065	1,172
Business Assessment	35	42	70	71
Value of Exemptions	243	305	457	466
Equalized Assessment	665	865	989	1,191

Source: Manitoba Municipal Affairs, Statistical Information

An analysis of these figures shows that total taxable assessments (real and personal property) has fluctuated up and down over the time period in the R.M. of Louise whereas it has steadily increased in the villages. Notice also the large difference in the total value of taxable assessments between the rural municipality and the villages with Louise having a $7 million value and the villages each around $1 million. Business assessments are significantly less in the rural area and all three municipalities show variations in the business assessment levels over the period. The overall increase in the value of the total taxable assessment base in the three areas is an indicator of general growth even though it may be relatively slow.

Taxation Rates

The following tables present a comparison of the taxation rates of the three municipalities. In order to make sure that each property owner in a particular municipality pays an equal share in the provision of central services, council sets a mill rate. The mill rate is determined by dividing the total municipal budget by the total taxable assessment of every property in the municipality. The mill rate, when multiplied by the taxable assessed value of each individual property yields the amount each property owner will pay as taxes.

Although the major source of funding for education services comes from the Provincial Government, a significant amount is also raised from local taxpayers. It is shown as the "residential/school" levy (mills) in the tables. The "general municipal" levy may include snow removal, sewer and water, municipal office administration, roads, drain construction and maintenance, etc. The business tax is a rate set by the local councils from 0-15% as a tax on the business assessment.

The R.M. of Louise has separated their residential/school and commercial levies on the basis of school divisions. Commercial levies were not distinct in 1971. All mill rates have increased over the study period with the business tax remaining constant at 5%. Similar situations exist in the villages where mill rates have steadily increased with business taxes kept at 10%. Commercial levies were not made separately in Crystal City until somewhere between 1971 and 1976.

Relating taxation to assessment levels, it would appear that the villages have distributed the tax burden over the increased assessment base at parallel levels while the R.M. of Louise has steadily increased taxes although total assessments have fluctuated. At low assessment levels, taxpayers would then be paying a larger portion of costs. Both education and general municipal costs have increased over the time period in all three areas.

TABLE 7: TAXATION RATES

	(mills) 1971	1976	1981	1986
R.M. of Louise				
Residential/School - Pembina Valley	30	50.9	71.2	92.5
- Mountain	33.2	70.8	79.3	108.0
- Tiger Hills	28.4	51.8	58.2	94.5
Commercial - Pembina Valley	N/A	82.8	128.4	131.2
- Mountain	N/A	102.7	136.5	146.7
- Tiger Hills	N/A	83.7	115.5	133.2
General Municipal	16	27.7	39.2	65.0
Business Tax	5%	5%	5%	5%
Village of Pilot Mound				
Residential/School	24.0	50.3	59.1	94.3
Commercial	48.8	79.4	104.2	139.6
General Municipal	38.9	43.61	56.6	100.9
Business Tax	10%	10%	10%	10%
Village of Crystal City				
Residential/School	31.3	48.7	82.6	94.5
Commercial	N/A	76.9	122.3	135
Gereral Municipal	30.7	39.2	56.9	81.8
Business Tax	10%	10%	10%	10%

Source: Manitoba Municipal Affairs, Statistical Information

Revenues

The following three tables show the relative impacts of various revenue sources on the general operating funds of the three municipalities.

In the R.M. of Louise revenue raised from taxation in 1986 accounted for 92% of total revenues. The proportion of total revenues collected from government contributions has not varied significantly on the 15 year period in Louise at a level of 6-7% between 1971 and 1981 and lowering to 4% in 1986. Business taxes and other revenues make up only a small share of overall revenue over the period while school taxation has steadily increased. Under government contributions, grants-in-lieu of property taxes are paid by senior levels of government for all government owned property. This proportion of revenue has increased only moderately while conditional grants increased up until 1981 then dropped off significantly from 1981-1986. These grants are formula-based and vary depending on municipal spending for services and the cost-sharing arranged. Tax-sharing payments have shown an overall increase over the 15 year period. Other revenues include such sources as licenses, permits, fines, sales of goods and services, rents, interest and miscellaneous. From a constant level of $19,000 between 1971-1976, other revenues have increased in importance to a level of $50,000 in recent years.

In Pilot Mound the amount of revenue generated from taxation sources has increased over the study period with school taxes rising, debt charges fluctuating but showing a recent decrease, special levies being added somewhere between 1976 and 1981, and a business tax which rose up to 1981 but decreased since. In 1986, taxation accounted for 81% of the total revenues. Government contributions represented a higher percentage of total revenues for each five year interval from 7% in 1971 to 15% in 1986. Conditional grants have increased significantly over the 15 years from $600 in 1971 to $34,000 in 1986. It must be kept in mind that these grants are dependent upon the number of capital cost-shared projects undertaken in a particular year. The tax-sharing payments portion has also demonstrated an increase from $6,000-30,000. This category differs from year to year and from municipality to municipality as they are adjusted on the basis of population. Other revenues and the business tax make up only a small percentage of total revenues collected and have shown the same trend increasing up to 1981 then dropping in 1986. The amount of revenue obtained through the business tax is approximately $10,000 in Pilot Mound whereas it is only around $900 in the R.M. of Louise. This is understandable considering the difference in the number of businesses existing in the urban centre as compared to the rural areas.

Crystal City's revenue analysis should not vary drastically from that of Pilot Mound although actual values cannot be compared directly. Taxation from all sources increased over the period with the exception of debt changes which dropped in half from 1981 to 1986 to $9,000. In 1986, the amount of total revenue collected from taxation equalled 83% which is similar to Pilot Mound's. The percentage of revenues from government contributions displayed an opposite trend to that of Pilot Mound's with a high of 17% in 1971 steadily dropping to 10% in 1986. Other revenues in Crystal City rose from $7,000 in 1971 to $17,000 in 1981 and remained unchanged in 1986.

TABLE 8: LOUISE GENERAL OPERATING FUND (REVENUE)
(Year Ended)

	($000)			
	1971	1976	1981	1986
Taxation				
Schools	174	375	532	738
Other Governments	2	2	5	N/A
Debt Charges	10	13	14	7
General Municipal	120	198	302	502
Special Levies	2	10	14	23
Business Tax	.8	.5	.9	.9
TOTAL	309	598	867	1,270
Government Contributions				
Grants-in-lieu	2	4	6	9
Tax-Sharing Payments	14	24	28	42
Conditional Grants	6	17	25	3
TOTAL	22	45	59	54
Other Revenues	19	19	41	52
TOTAL REVENUE	350	662	967	1,376

Source: Manitoba Municipal Affairs, Statistical Information

TABLE 9: PILOT MOUND GENERAL OPERATING FUND (REVENUE)
(Year Ended)

	($000)			
	1971	1976	1981	1986
Taxation				
Schools	34	84	114	176
Other Governments	-	-	-	-
Debt Charges	19	29	32	31
General Municipal	38	54	88	173
Special Levies	-	-	8	18
Business Tax	5	8	10	9
TOTAL	96	174	252	407
Government Contributions				
Grants-in-lieu	2	4	8	13
Tax-Sharing Payments	6	12	18	30
Conditional Grants	.6	7	16	34
TOTAL	8.6	23	42	78
Other Revenues	16	16	38	20
TOTAL REVENUE	121	213	332	505

Source: Manitoba Municipal Affairs, Statistical Information

TABLE 10: CRYSTAL CITY GENERAL OPERATING FUND (REVENUE)
(Year Ended)

	($000)			
	1971	1976	1981	1986
Taxation				
Schools	20	49	82	119
Other Governments	-	-	-	-
Debt Charges	10	17	18	9
General Municipal	17	24	45	86
Special Levies	2	3	3	5
Business Tax	4	4	7	7
TOTAL	53	98	155	226
Government Contributions				
Grants-in-lieu	1	3	4	8
Tax-Sharing Payments	5	8	13	18
Conditional Grants	6	9	8	2
TOTAL	12	20	25	27
Other Revenues	7	9	17	17
TOTAL REVENUE	72	127	197	271

Source: Manitoba Municipal Affairs, Statistical Information

Expenditures

In general terms, municipal expenditures have shown an overall increase in the period from 1971-1986 as a result of inflation, population growth and improved levels of service in all three study areas. It should be noted that a decrease in the actual expenditure on a service does not necessarily imply a decrease in the level of that service given. Usually the level of service provided actually improved but funding arrangements were revised and/or distributed differently. A decrease in the cost a particular category could also be accounted for by a drop in the demand for that service, for example, in Social Welfare payments where the number of recipients may have declined.

In the R.M. of Louise, by far the highest outlay of capital was in the area of education which accounted for 53% of the total expenditures. Spending increased in all categories throughout the period except for public health and social welfare which declined to almost negligible amounts ($0-1,000); environmental planning and economic development which fluctuated between $5,000-10,000 from 1971 to 1981 then increased to $31,000 by 1986; and recreation and culture which increased from 1971-1981 then dropped by approximately $10,000.

Pilot Mound experienced continuing increases in its spending for education, general government, transportation and environmental health services with varying rates in the other areas. Fiscal expenditures dropped between 1971 and 1976 then increased and levelled off from 1976 to 1986. Spending on protection services was relatively low for the first ten years of study and increased by approximately 9 times to $91,000 in 1986. Public health and social welfare payments range from $0 to $1,000 indicating that only a minority of the population require these services in Pilot Mound. Environmental planning and economic development accounts for only 1% of total expenditures for each year examined. Recreation and culture expenditures were constant until 1976, increased in 1981 and decreased by $9,000 in 1986. In 1986, education services made up the largest proportion of total spending at 36%.

Crystal City's expenditure pattern shows an overall increase in most areas and in the totals over the period. It can be noted that Crystal City has the lowest total expenditures of the three municipalities at a maximum of approximately $280,000 in 1986 whereas Pilot Mound is more than 1.5 times higher at $507,000 and the R.M. of Louise with over $1.3 million spent in that year. The areas which present deviations from the normal increase in spending are fiscal services, protection, transportation, public health, environmental planning and economic development and recreation and culture. Social welfare payments were negligible.

The R.M. of Louise spends significantly more money on transportation facilities and educational services than either of the urban centres as a result of the larger rural population and the need for constant upgrading and maintenance of regional highway networks. In the three areas, the expenditures on the categories of environmental and public health, welfare, planning economic development and recreation are all relatively small.

TABLE 11: LOUISE GENERAL OPERATING FUND (EXPENDITURE)
(Year Ended)

	($000)			
	1971	1976	1981	1986
Education	175	377	535	741
Fiscal	24	48	61	75
General Government	37	52	74	125
Protective	1	7	7	16
Transportation	83	132	212	325
Environmental Health	.1	.3	2	4
Public Health	3	4	.7	1
Social Welfare	.9	2	-	-
Environmental Planning & Economic Development	5	10	9	31
Recreation & Culture	2	17	37	26
TOTAL EXPENDITURE	331	649	937	1,344

Source: Manitoba Municipal Affairs, Statistical Information

TABLE 12: PILOT MOUND GENERAL OPERATING FUND (EXPENDITURES)
(Year Ended)

	($000)			
	1971	1976	1981	1986
Education	34	85	118	182
Fiscal	36	34	46	46
General Government	11	26	57	65
Protection	10	15	9	91
Transportation	19	23	57	66
Environmental Health	5	6	13	30
Public Health	1	.5	.4	2
Social Welfare	.2	-	1	-
Environmental Planning & Economic Development	.8	3	1	6
Recreation & Culture	10	10	29	20
TOTAL EXPENDITURE	127	202	331	507

Source: Manitoba Municipal Affairs, Statistical Information

TABLE 13: CRYSTAL CITY GENERAL OPERATING FUND (EXPENDITURES)
(Year Ended)

	($000)			
	1971	1976	1981	1986
Education	21	51	84	120
Fiscal	11	23	21	26
General Government	15	17	27	55
Protection	5	12	6	15
Transportation	14	16	26	35
Environmental Health	2	4	6	11
Public Health	1	.6	2	.6
Social Welfare	.5	-	.1	-
Environmental Planning & Economic Development	2	.5	.7	8
Recreation & Culture	4	2	12	9
TOTAL EXPENDITURE	74	126	185	279

Source: Manitoba Municipal Affairs, Statistical Information

Debt Position

The three tables following present the capital debt positions of the rural municipality and the two villages. The recommended maximum debt load that a municipality can carry is set at 30% of the local equalized assessment base by the Manitoba Municipal Board. It would appear that the majority of the debts accrued by these municipalities were in the area of water and sewer services and recreation and culture. The debt ratios are well within the guideline of 30% leaving each municipality with sufficient financial capacity to carry a higher debt load. Any increases beyond the maximum recommended would be borne directly by the local taxpayers although it should be kept in mind that assessments could increase with community growth to absorb the burden. An increase in the assessment base could offset an increase in the mill rate.

TABLE 14: LOUISE CAPITAL DEBT

	($000)			
	1971	1976	1981	1986
Administration	-	-	-	-
Protection	-	-	-	-
Transportation	-	-	-	-
Water & Sewer	-	-	-	-
Social Services	-	-	-	-
Recreation & Culture	34	95	69	39
Total Debentures Unmatured	34	95	69	39
Deferred Liabilities	10	-	-	-
TOTAL CAPITAL DEBT	45	95	69	39
30% of Equalized Assessment	2,213	2,182	2,195	2,358
Debt Ratio (%)	.6	1.3	.9	.5

Source: Manitoba Municipal Affairs, Statistical Information

TABLE 15: PILOT MOUND CAPITAL DEBT

	($000)			
	1971	1976	1981	1986
Administration	-	-	-	-
Protection	-	-	-	-
Transportation	-	-	-	-
Water & Sewer	154	104	114	108
Social Services	-	-	-	-
Recreation & Culture	-	23	20	16
Total Debentures Unmatured	154	127	135	124
Deferred Liabilities	1	-	-	-
TOTAL CAPITAL DEBT	155	127	135	124
30% of Equalized Assessment	321	449	514	592
Debt Ratio (%)	14.5	8.5	7.9	6.3

Source: Manitoba Municipal Affairs, Statistical Information

TABLE 16: CRYSTAL CITY CAPITAL DEBT

	($000) 1971	1976	1981	1986
Administration	-	-	-	-
Protection	-	-	-	-
Transportation	-	-	-	-
Water & Sewer	68	48	-	-
Social Services	-	-	-	-
Recreation & Culture	17	48	35	22
Total Debentures Unmatured	84	96	35	22
Deferred Liabilities	2	-	-	-
TOTAL CAPITAL DEBT	86	96	35	22
30% of Equalized Assessment	200	260	297	357
Debt Ratio (%)	12.9	11.1	3.5	1.8

Source: Manitoba Municipal Affairs, Statistical Information

2.4 BUILDING PERMITS

A review of the building permit statistics for the three municipalities which make up the Louise Planning District provides an indication of the rate of new development and an idea of the accrued values obtained from building construction.

A comparison of the values of building permits for the three municipalities is shown in the following table:

TABLE 17: BUILDING PERMITS BY VALUE

	Crystal City	Pilot Mound	R.M. of Louise
1979	$ 306,000	$ 745,836	$ 210,000
1980	36,750	183,500	258,000
1981	271,800	83,500	291,000
1982	224,600	126,950	253,000
1983	230,100	227,300	332,200
1984	213,920	164,200	110,635
1985	242,800	178,000	81,500
1986	168,300	449,500	300,000
	$1,703,470	$2,158,786	$1,844,335

Source: R.M. of Louise, Village of Crystal City, Village of Pilot Mound

Dollar values appear to be fairly consistent in Crystal City except for 1980 when the figure fell dramatically. Most of the construction here falls into the residential category with 30 new dwellings being built in the period of 1979-1986. There were 19 residential improvement permits (renovations and additions) and 21 residential accessory buildings constructed (garages). Commercial, industrial or agricultural construction within the Village only accounted for 5 of the building permits out of a total of 75 over the period. The high value of $306,000 in 1979 was due to the construction of 8 new dwellings in that year.

In Pilot Mound the value of building permits fluctuates widely from a high of $745,836 in 1979 to a low of $83,500 in 1981. Like Crystal City, the majority of activity lies in residential construction which made up 69 of the 80 building permits. A total of 24 new homes were built in this period with a high of 6 dwellings per year in 1979 and 1986. The dollar value in 1979 was raised above the average as this was the year of the construction of the 20 unit apartment block in the Village with an attached value of $415,662. Building activity increased significantly 1986 as reflected in the rise in the number of permits issued and the over twofold increase in accompanying values.

The R.M. of Louise exhibits a more stable record of annual construction as compared to the villages with a defined low in 1985. New residential construction, dwellings moved on, and renovations constituted 88% of the total building permits in the municipality. In the 8 year period between 1979 and 1986 35 new dwellings were built with a high of 7 in 1979. The R.M. of Louise shows an overall consistent pattern of building activity as well as a low number of permits issued in comparison with the villages.

Building Permits By Type/Year

Table 18 illustrates the comparison between the number of building permits issued by the type of construction for Pilot Mound, Crystal City and the R.M. of Louise. Some definitions of the categories discussed are as follows:

residential new - new dwellings constructed including buildings moved on i.e. ready-to-move (RTM's) and multiple-family dwellings

residential improvements - renovations or additions made to existing buildings including additions or improvements to attached garages

residential accessory - buildings constructed which are accessory to the main residential building including storage sheds and new garages

agricultural - buildings constructed for farm related uses including machine sheds, barns and other storage structures

institutional - includes hospitals, churches, schools, government buildings and public utilities

TABLE 18: BUILDING PERMITS BY TYPE/YEAR

	1979	1980	1981	1982	1983	1984	1985	1986	Total
R.M. of Louise									
Residential									
- New	7	5	6	6	5	1	1	4	35
- Improvements	-	4	2	1	5	2	3	-	17
- Accessory	-	-	-	1	-	2	-	2	5
Agricultural	-	-	-	-	-	-	-	1	1
Commercial									
- New	-	-	-	-	-	-	-	1	1
- Improvements	-	-	-	-	-	-	-	-	-
Industrial	-	-	-	-	-	-	-	-	-
Demolitions	-	-	-	-	-	-	-	-	-
Institutional									
- New	-	-	-	-	-	-	-	-	-
- Improvements	-	-	-	-	-	-	-	-	-
TOTAL	7	9	8	8	10	5	4	8	59
Pilot Mound									
Residential									
- New	6	3	1	2	2	2	2	6	24
- Improvements	2	2	1	7	3	2	3	3	23
- Accessory	3	3	2	3	6	2	-	3	22
Agricultural	-	-	-	-	1	-	-	-	1
Commercial									
- New	1	-	1	-	-	1	-	-	3
- Improvements	-	-	1	-	-	-	-	-	1
Industrial	-	-	-	-	1	-	-	-	1
Demolitions	-	-	-	1	-	1	-	-	2
Institutional									
- New	1	1	-	-	-	-	-	-	2
- Improvements	-	-	-	-	-	-	-	1	1
TOTAL	13	9	6	13	13	8	5	13	80
Crystal City									
Residential									
- New	8	1	4	4	4	3	3	3	30
- Improvements	1	2	5	2	1	-	4	4	19
- Accessory	1	-	3	4	3	1	6	3	21
Agricultural	-	-	1	-	-	-	-	-	1
Commercial									
- New	-	-	-	-	-	-	2	1	3
- Improvements	-	-	-	-	1	-	-	-	1
Industrial	-	-	-	-	-	-	-	-	-
Demolitions	-	-	-	-	-	-	-	-	-
Institutional									
- New	-	-	-	-	-	-	-	-	-
- Improvements	-	-	-	-	-	-	-	-	-
TOTAL	10	3	13	10	9	4	15	11	75

Source: R.M. of Louise, Village of Pilot Mound, Village of Crystal City

Each of the municipalities displays a concentration of building activity in the residential category with a total of 89 new dwellings constructed between the three municipalities from 1979 and 1986. Lows in the number of permits issued fell in 1985 in Pilot Mound and the R.M. of Louise whereas Crystal City showed their highest number in this year. This high number in Crystal City was mostly made up of additions, renovations and accessory buildings as there were only 3 permits issued for new dwellings.

Building activity in the other sectors is very low in all three areas at only 1-3 permits issued over the 8 year period. Pilot Mound exhibits slightly more construction in the agricultural, commercial, industrial and institutional categories than the other two municipalities.

RURAL LAND USE & DEVELOPMENT

3.1 LAND USE

Land use in the Rural Municipality of Louise is characteristic of that in most southern Manitoba rural areas. It displays an even distribution of farmsteads with the majority of dwelling units being associated with farming operations. The majority of the land area is in field crops on Class 2 soils. Livestock production has taken an increasing role as the major income source for the farmer especially in areas where land limitations are evident.

Although agriculture is the dominant land use in the municipality, some scattered spots exhibit variations from the norm. None of these examples, however, appears to have a significant effect on the agricultural industry in the area except for possibly the two anhydrous ammonia supply outlets and rural non-farm residences adjacent to the villages.

Livestock operations are spread throughout the municipality but special concern should be paid to those in or adjacent to the villages where conflicts may arise between the farm operation and local residents.

3.2 PILOT MOUND-CRYSTAL CITY CORRIDOR

The main reason for identifying a special area between the Villages of Crystal City and Pilot Mound along the highway corridor was based upon the proposed location of the Rock Lake Oil Seeds Plant. It was anticipated that industry may have been attracted toward the area of the plant and that this development potential should be controlled. At the time of writing, it appears that the plant will not be proceeding and is therefore no longer an issue in the planning for this area.

However, the highway corridor may still have some importance on its own, as it is the major transportation link between the Villages of Crystal City and Pilot Mound. School buses travelling between the two villages use the highway as their main transportation route in addition to heavy equipment, farm machinery, trucks and cars bringing people to and from work. At the present time, there appears to be no pressures for development in this area and the corridor is therefore not a major issue. Its presence as a regional transportation corridor should be kept in mind for the future.

Any highway corridor which exists between two urban centres located so close together necessarily assumes development pressures either as a result of the spillover of urban-type uses or proposed regional facilities. Some of the factors which should be considered when debating the approval of new development are the following:

- conflicts between uses should be kept to a minimum
- efficient movement of people and goods along the highway transportation system should be maximized
- development separations should be maintained between anhydrous ammonia sites and new development
- rural residential development on the fringes of the villages should be monitored
- development setbacks should be established near existing nuisance grounds and sewage lagoons
- if any new sites for nuisance grounds are required, they should be selected with care (in consultation with Environment Officials).

3.3 MUNICIPAL SERVICES

On August 25, 1986 Reid Crowther & Partners Ltd. was commissioned by the Louise Planning District Board to undertake a municipal engineering background study which would "examine the extent, condition, and performance of existing utilities, to identify, where possible, current and potential deficiencies, and to recommend improvements where necessary."*

Although the R.M. of Louise does not contain the advanced municipal infrastructure of the villages, the following are the findings of the study pertaining to the rural area:

*Reid Crowther & Partners Limited, "Louise Planning District, Municipal Engineering Background Study", April 1987.

- rural farm residents provide their own private sewage disposal systems which generally consist of septic tanks and sewage ejectors
- provincial regulatory controls of large volume farm waste storage and disposal do not exist
- a solid waste disposal site located at Purves is situated above ground on private land and may require a new site which meets the requirements of The Clean Environment Act
- an inventory of all bridges and culverts in the R.M. of Louise should be undertaken, and all locations where additional culvert installations or channel excavations detailed
- continuing records should be kept over several winter seasons to determine the magnitude of the snow clearing problems indicating what extraordinary clearing expenses have been incurred in each area
- the imposition of a ban on trucking on provincial highways (load limits) during spring break-up forces heavy trucks to use gravelled municipal roads during that time. Considerable damage to the municipal roads result and the municipality must bear the cost of repairs
- all gravel for the municipal road system comes from one source on the west boundary on P.R. #342 resulting in a long haul distance to supply those roadways in the east sector of the municipality

3.4 SAND AND GRAVEL RESOURCES

The Mines Branch of the Dept. of Energy and Mines has not yet completed an inventory of the aggregate resources of the R.M. of Louise. They have, however, provided planning concerns and recommendations which are given in the following. Additional site specific data will be available at a later date.

- sand and gravel resources are a staple of the construction industry, they are non-renewable, may be totally consumed and are costly to transport long distances
- the extraction of gravel can be a very disruptive operation. Residents in the immediate vicinity of pits and along the hauling routes are subject to noise, dust, heavy traffic and sights that are less than attractive.

The objectives of the Branch are to:

- protect all areas defined as being capable of supporting sand and gravel extraction
- ensure that sand and gravel shall continue to be available to support local and provincial construction at reasonable cost through the efficient use and protection of these resources
- allow optimum use of land underlain by non-renewable gravel resources
- incorporate into gravel operations, programs to rehabilitate the extraction site to a state that is compatible with the adjacent landscape and not in conflict with it

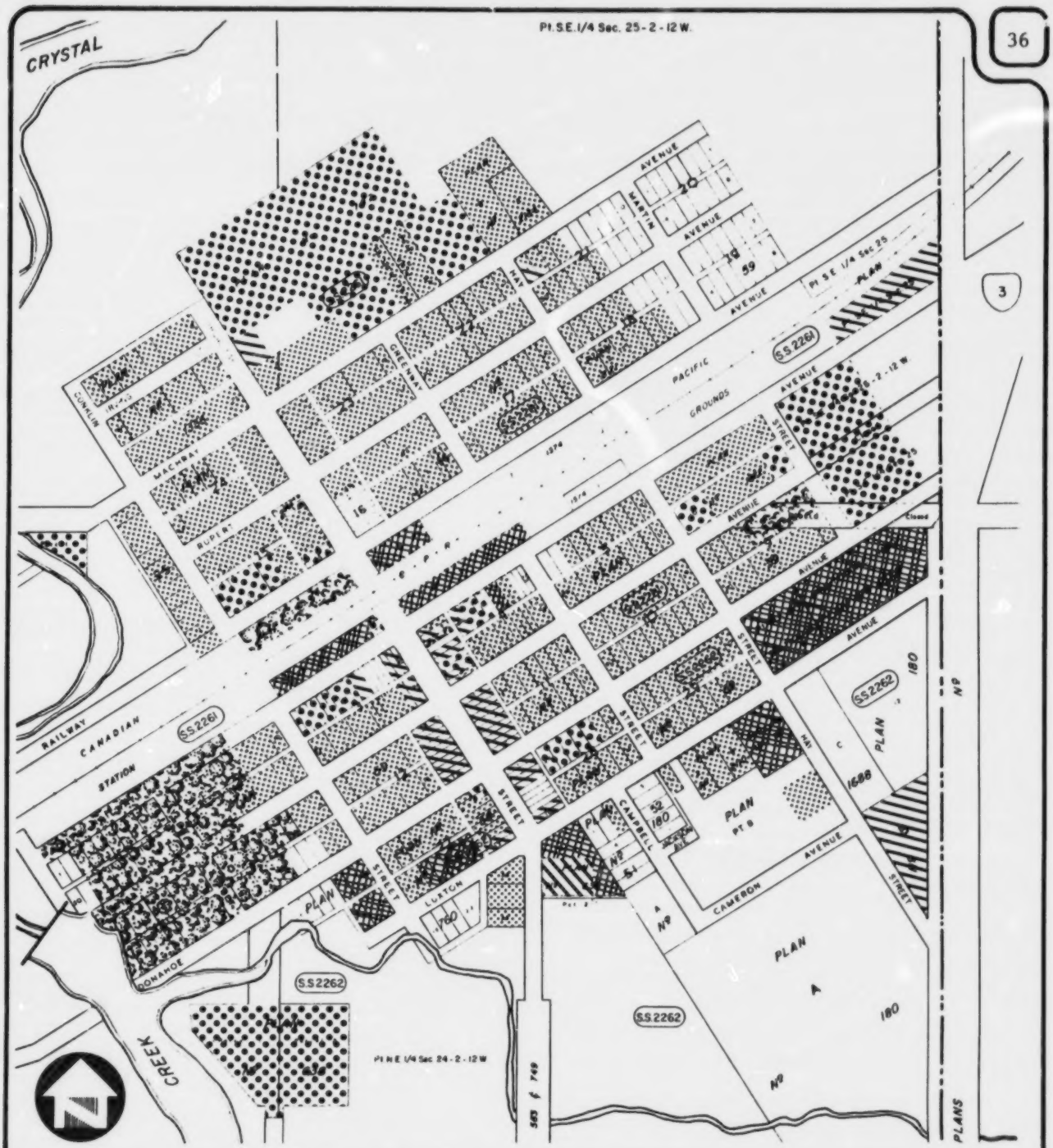
URBAN CENTRES

4.1 CRYSTAL CITY

Land Use

The relationship between physical layout of the village and land use is very well defined in Crystal City as shown on Map #3. The majority of the area of the village is taken up by residential uses with distinct areas visible for industrial, commercial, recreational and institutional uses. It would appear from the Generalized Land Use Map that there are very few vacant lots left for new housing development in the village. A preliminary count indicates that there are approximately 31 vacant lots; most of these being infill lots and not lots created as a result of new subdivisions. All of these lots, however, are not readily available as future building lots as they are owned by various individuals as part of 2 lot property holdings. Many of these spare lots are presently used to create large yards or for gardens and may not easily be given up for new development. The vacant area in the northeast corner of the village east of Martin Avenue is probably deceiving on the map as the land is not prime for development being low lying and swampy. In fact, it may be a good idea to examine the possibility of cancelling the plan which covers these lots.

A downtown commercial area can be readily defined along both sides of Broadway Street between the CPR tracks and Luxton Avenue on the south. A few general commercial sites exist outside the downtown area which house larger sales operations one being the Pembina Agri Centre and another a farm machinery dealer. These types of commercial operations generally require a larger land area than would be available in a central commercial strip. Also they may rely on highway traffic for a fair percentage of their business and therefore prefer a fringe location.

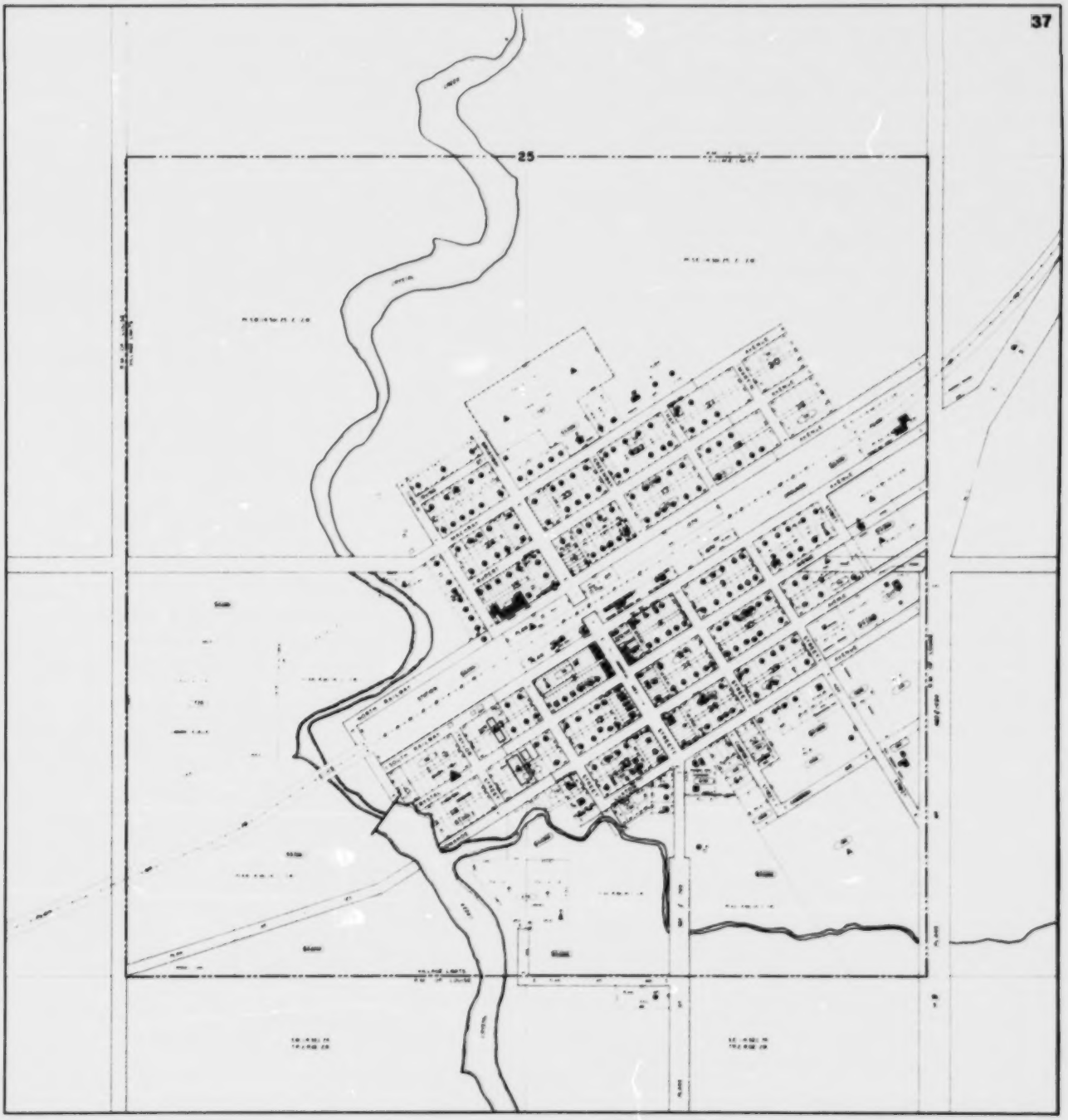


LAND USE
(Generalized)

Map No. 3

VILLAGE OF CRYSTAL CITY

- Residential
- Institutional
- Commercial
- Industrial
- Park or Recreational
- Vacant



LEGEND:

BUILDING USE

Map No. 4

VILLAGE OF CRYSTAL CITY

Industrial uses appear to have congregated in two areas; one along the railway tracks and the other on the south side of the village. The location of the grain elevators and bulk oil station is obviously adjacent to the railway for economic reasons. There appears to be ample room for expansion or the introduction of new businesses along the tracks for similar types of industry. Other heavy industrial uses include a seed plant, concrete plant, construction firm and municipal maintenance yards. Their choice of location has not appeared to interfere with adjacent uses up to this point in time.

Institutional uses include hospitals, schools, government buildings, public utilities and churches. The areas occupied by this category of land use are scattered throughout the village but they are not "obnoxious"; that is, they do not create land use conflicts or cause a nuisance in the form of noise, sight, odour or traffic. Three areas stand out on the map as users of extensive land areas, two of them being schools - Thomas Greenway Collegiate and Crystal City Elementary and the third, the cemetery.

Sports facilities in Crystal City are clustered in the southwest corner of the village. The siting of recreational uses in this area appears to have been well-planned. The recreational grounds include the arena and curling rink, baseball diamonds and livestock barns.

Business and Professional Services

Crystal City presents a good example of a village which is primarily an agricultural service centre providing basic needs and services to the surrounding rural population. An inventory of the businesses within the village, taken in the spring of 1987, reveals that a wide range of commodities and personal services are available. Most of the major retail and professional categories are represented in the following with the number of businesses in each category shown in brackets ():

Apparel and Accessories - (2)

Automotive - (12)

Building and Hardware - (7)

General Merchandise - (4)

Hotel, Food and Beverage - (6)

Entertainment and Home Accessories - (2)

Professional Services - (5)

Financial - (1)

Personal Services - (5)

Insurance and Real Estate - (1)

Agri-Commercial - (6)

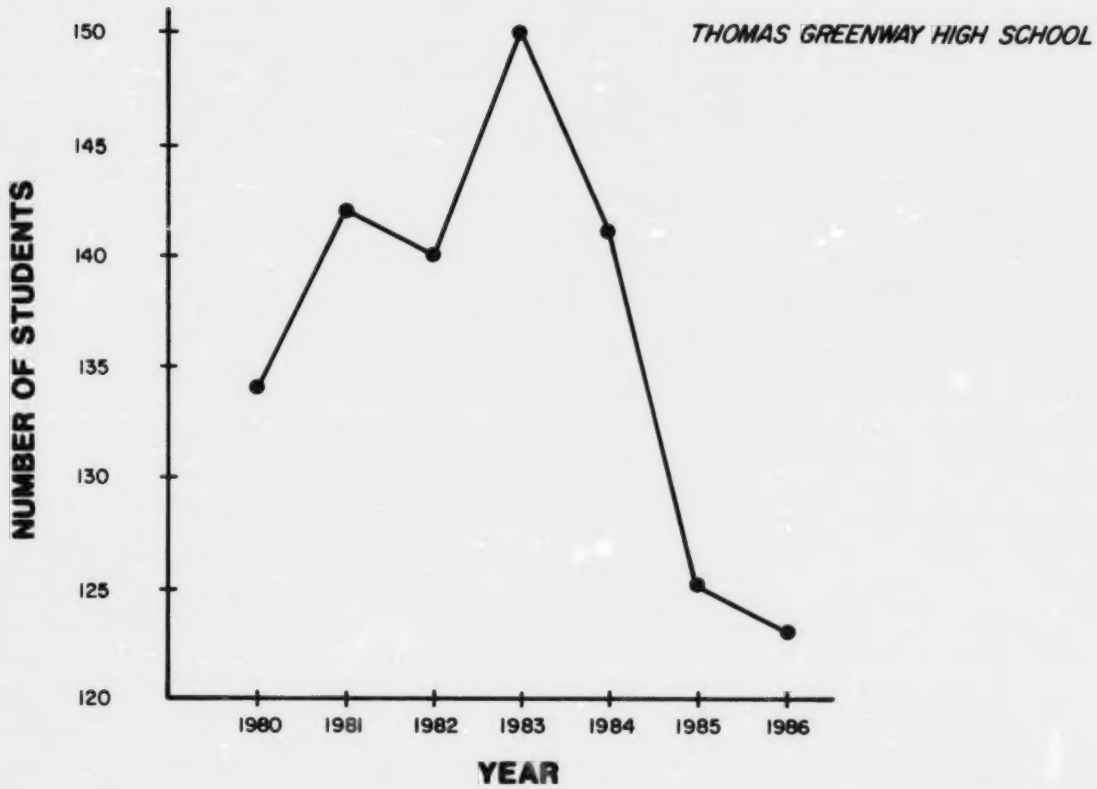
Printing and Publishing - (2)

Industrial - (4)

School Enrollment

Educational institutions within the Village of Crystal City fall under the jurisdiction of the Pembina Valley School Division No. 27. The two schools in the community are Crystal City Elementary and Thomas Greenway High School. The following graphs in Figure 5 indicate the fluctuations in student enrollment at the schools since 1980. Enrollmentfigures are based on counts taken in September of each year. It should be noted that the total student population figures are slightly reduced from the actual number of students in the municipality as some students from the southern portion of the R.M. of Louise attend school in Snowflake (R.M. of Pembina). It should be noted that Grade 7 and 8 students moved from the Elementary School into the High School around 1985. The increase in the graph for the elementary school in 1984 may be accounted for by the closing of the Mather School. Some students from Mather went to the school in Clearwater and some to Crystal City. A fluctuation in enrollment levels may also be due to the introduction of Kindergarten into the elementary school. The Kindergarten class includes students from Mather, Clearwater, Snowflake and Crystal City. When Kindergarten is completed, these students return to their respective local schools with approximately half remaining in Crystal City.

Figure 5 Crystal City Student Enrollment, 1980-1986



Source: Pembina Valley School Division No. 27

The Pembina Valley School Division has indicated that there are no plans for the expansion or closing of either school and they do not expect enrollment figures to change significantly in the near future.

Municipal Services

On August 25, 1986 Reid Crowther & Partners Ltd. was commissioned by the Louise Planning District Board to undertake a municipal engineering background study which would "examine the extent, condition, and performance of existing utlities, to identify, where possible, current and potential deficiencies, and to recommend improvements where necessary. Additionally the study will suggest in what manner expansion of servicing should be managed in order to provide for future growth and development."*

This section of the report summarizes their findings for the Village of Crystal City regarding the sewer system, water system, solid waste disposal and future development areas:

- water is obtained from wells at present with no overall concerns expressed about supply or quality
- should the proposed flax seed plant be constructed, supply, treatment and distribution of water to this facility is estimated at $753,000. In order to enlarge the proposed infrasture to accommodate Crystal City, approximately $260,000 in additional funds must be expended. Extension of piping to and throughout Crystal City would entail a further cost of $1.3 million for a total cost of approximately $2.3 million
- at the present time, there appears to be no desire to construct a municipal water system
- hydraulic analysis of the sewage collection system indicates that all piping is of adequate capacity to convey the anticipated loading
- the sewage system was installed in 1962
- the sewage system should be examined internally by means a T.V. inspection program in order to ascertain the condition of the piping
- the pumps in the lift station are proving troublesome because replacement impellers are difficult, if not impossible to obtain. The village may have to resort to replacement of the existing equipment. Cost of new pumps and controls is estimated to be $37,000
- hour meters should be installed at the lift station
- on the basis of estimated hydraulic loading on the treatment lagoon, the available storage is currently inadequate by a factor of 3
- since over-topping of the lagoon does not occur as a regular basis, it would appear that:

  1. domestic loading estimates may be high
  2. estimated inflow and infiltration rates may be high
  3. seepage is occuring from the lagoon
  4. the free board allowance of .9m (3 feet) is being used for storage purposes
  5. a combination of all of the above

*Reid Crowther & Partners Limited, "Louise Planning District, Municipal Engineering Background Study", April 1987.

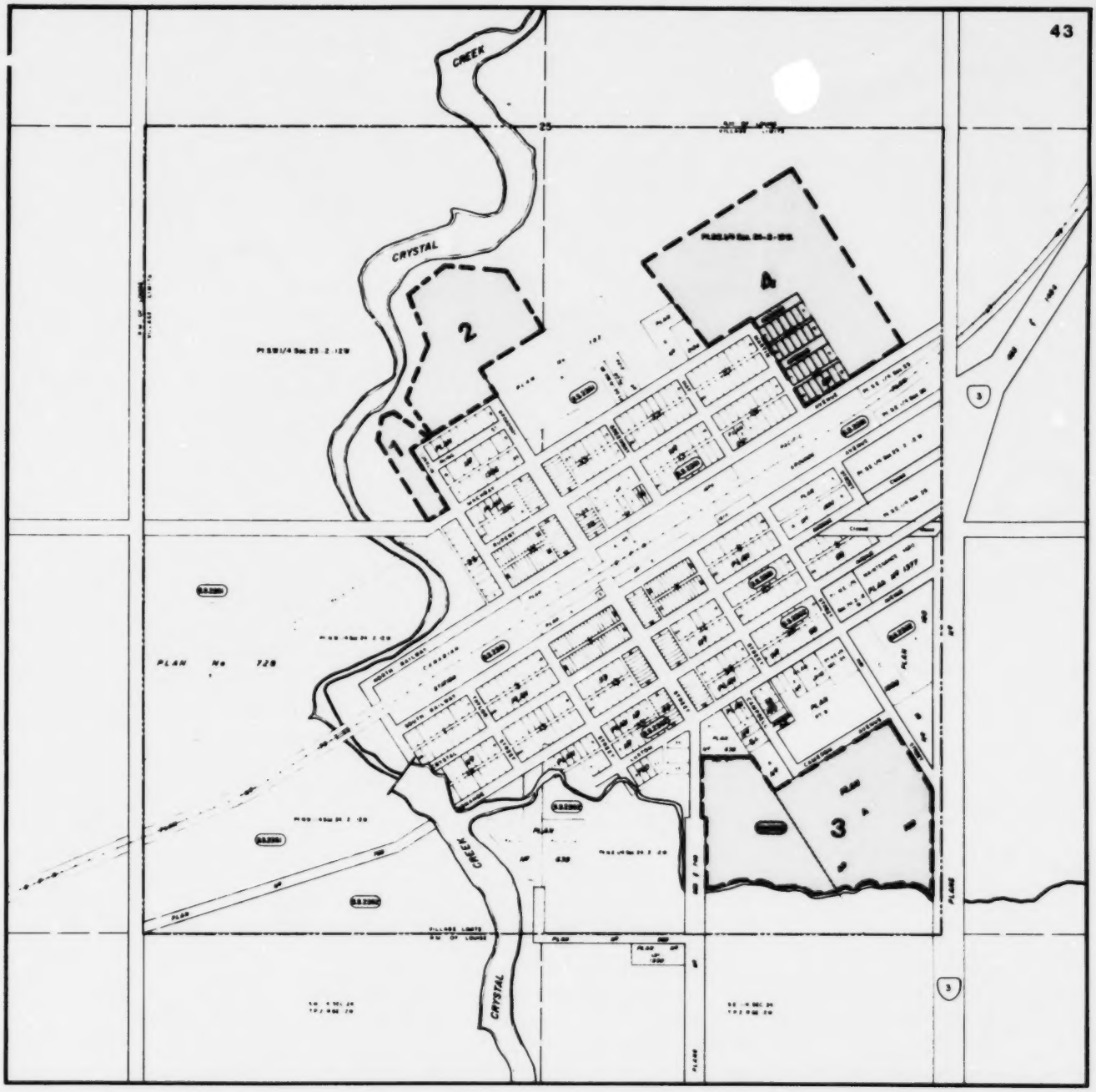
- a program of monitoring flow into the lagoon should be initiated immediately in order to verify hydraulic loading on the lagoons.
- aerial photos indicate a possibility of leakage from the lagoon. This should be the subject of further investigations.
- since the engineering report has been completed, the village has installed a meter system to obtain a better estimation of any problems with the sewage system
- the solid waste disposal site is located south of the lagoons and is utilized by nearby rural residents
- a new location will soon be required for a solid waste disposal site which the village is pursuing

The future residential expansion areas in the Village of Crystal City as determined by Reid Crowther & Partners Ltd. have been shown on Map #5 . The following points apply to the areas shown:

- servicing of all but Area 1 will require installation of a lift station and 4" forcemain piping
- Area 1 can accommodate approximately 10-15 lots
- development within Area 4 is not encouraged before Areas 1, 2 and 3 have been infilled
- preference of Areas 1 and 2 is based on servicing costs
- Area 2 is regarded as a more desirable residential area than Areas 3 and 4 as it is situated near an existing residential neighbourhood and school
- Area 3 is ranked over Area 4 due to the drainage problems in Area 4 as a result of the topography and resultant surface ponding
- a comparison of the costs of servicing each area should best be done on a per lot basis after subsequent residential design studies have been completed

A few other minor issues which should be considered are as follows:

- surface drainage problems occur at scattered spots throughout the community but could be solved once a repavement program is initiated
- the Crystal Creek bridge on Machray Avenue should be examined to define the remaining useful life of the structure
- the west approach of Broadway to Luxton Avenue has Broadway skewed at an acute angle to the south with poor visibility resulting on the passenger side of the stopped Luxton Avenue vehicle
- periodic parking shortages exist at the rinks, the community hall, the Medical Clinic and the grain elevators
- problems have been experienced with the considerable truck traffic on Machray, South Railway and Luxton Avenue, Broadway and Hay Streets
- snow clearing problems have been identified at the following locations:
  (a) intersection of Broadway and Machray
  (b) South Railway east of Conklin Street
  (c) parking and road west of rinks
  (d) intersection of Greenway and Luxton
- rural residential development has already spilled over the boundaries of the village
- development should be restricted near sewage lagoons and nuisance ground
- the parklike setting of the creek and public access to it should be maintained
- a street numbering system should be instituted



Map No. 5

LEGEND:

Future Development Areas

VILLAGE OF CRYSTAL CITY

FUTURE DEVELOPMENT AREAS

For General Study Purposes Only - Not Necessarily Accurate

DEPARTMENT OF MUNICIPAL AFFAIRS
PROVINCE OF MANITOBA

BR 309 - 101

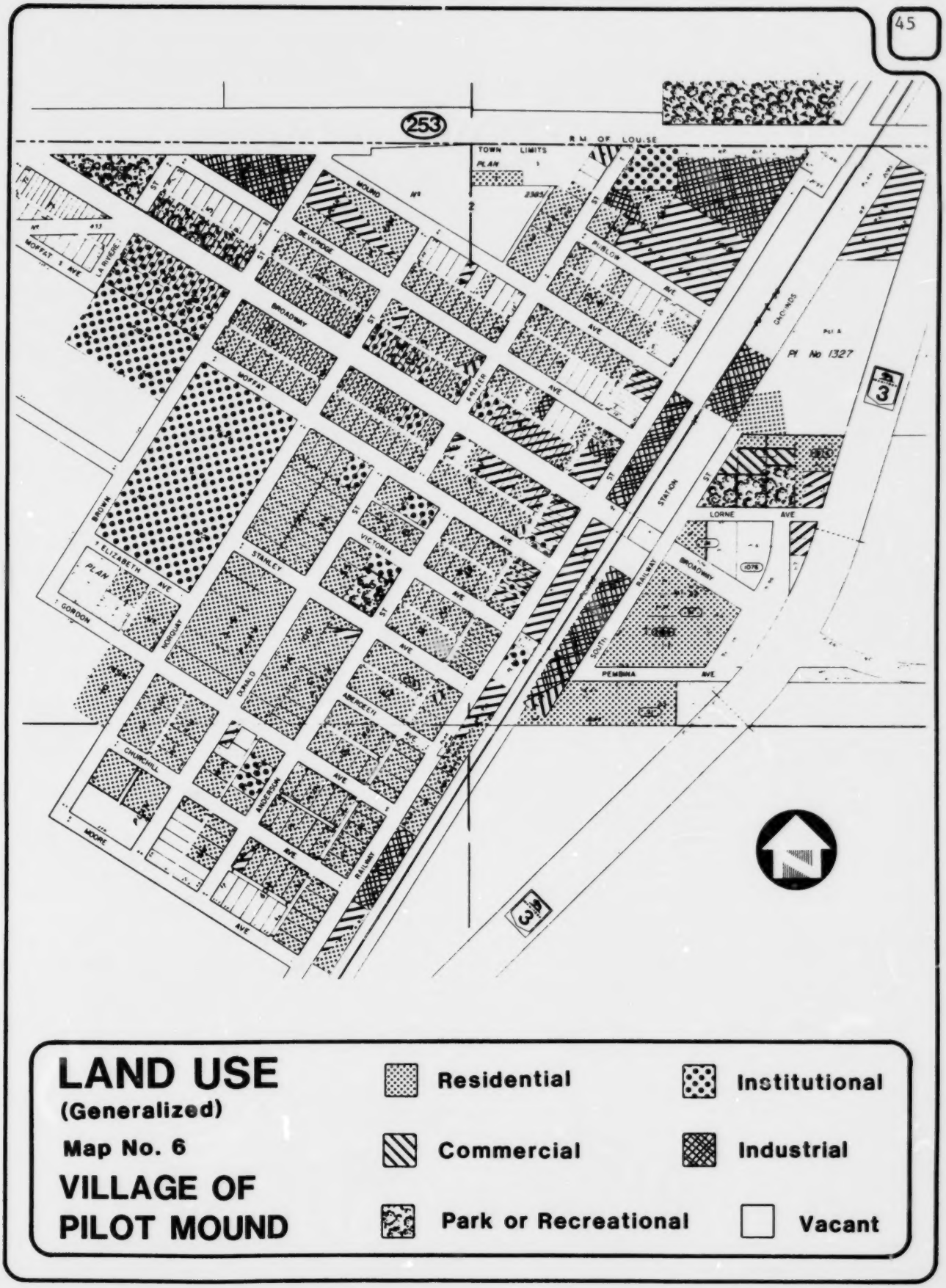
Source: Reid, Crowther & Partners Ltd.

4.2 PILOT MOUND

Land Use

The pattern of land uses in the Village of Pilot Mound appears well-organized as shown on Map #6. In a typical fashion, the majority of the area of the village is occupied by residential uses with Broadway Avenue and Railway Street as the main commercial strips. Some commercial uses have "spilled over" onto side streets although these are few. Office and commercial activity is concentrated along the two major thoroughfares which come together as a "T" intersection at Broadway and Railway Street. The commercial operations which are located outside the general commercial district include a machinery and truck dealer, honey and natural foods outlet, the Esso gas bar, hair salon and medical clinic.

Pilot Mound appears to have exhausted its supply of new building lots as only 33 vacant lots were found. The lots available for residential development are situated in existing built-up areas and constitute "infill" lots. They are not the result of new housing subdivisions. These lots are not all readily available for immediate building demand as some are grouped into 2 lot property holdings. Individuals may want to retain a spare lot for use as a garden or to maintain a large yard. It should be noted that Pilot Mound contains a 20 unit apartment block. This is the only example of a multiple-family housing development in the village.



LAND USE
(Generalized)

Map No. 6

VILLAGE OF PILOT MOUND

Residential

Commercial

Park or Recreational

Institutional

Industrial

Vacant

BUILDING USE

VILLAGE OF PILOT MOUND

Legend:

Map No. 7

Industrial uses in the village appear to have congregated around the railway tracks with some outlying activity to the north. The old creamery site presents an example of an isolated industrial site located along Brown Street adjacent to P.R. #253.

Institutional uses include schools, hospitals, senior citizens homes, public utilities, government buildings and churches. Such uses are scattered throughout the village with large areas of land being occupied by the school and the Prairie View Lodge Senior Citizens Home.

Recreational areas and facilities are located in three general areas of the village. The first of these includes the arena and curling rink on Lorne Avenue east of South Railway Street. Secondly, the Kinsmen Swimming Pool and park is situated at the northwest end of the village along Broadway Avenue. This is an outdoor pool with changing room facilities. Thirdly, the Pilot Mound agricultural and exhibition grounds are located just outside the village on its northern boundary and include livestock barns, a track and baseball diamonds. A few smaller parks can be identified including the Kinsmen tot lot on Broadway, and Memorial Park on Anderson Street.

One area that exhibits a mix of many land uses is north of Publow Avenue between Railway Street and Frazer Street. This block should be given special attention as the proximity of industrial, commercial and residential uses may not be fully compatible.

Business and Professional Services

The following is a list of business and professional services available in the Village of Pilot Mound by type as determined in the Spring of 1987. All of the major retail categories appear well-represented catering to the local and surrounding agricultural population. Customers do not have to travel long distances to fulfill their personal and business needs. The number of businesses in each category is shown in brackets ().

Apparel and Accessories - (2)

Automotive - (12)

Building and Hardware - (8)

General Merchandise - (3)

Hotel, Food & Beverage - (8)

Entertainment and Home Accessories - (1)

Professional Services - (8)

Financial - (2)

Personal Services - (8)

Insurance and Real Estate - (3)

Agri-Commercial - (2)

Printing and Publishing - (1)

Industrial - (5)

School Enrollment

The school in Pilot Mound has students from Kindergarten to Grade 12 and is under the administrative jurisdiction of the Tiger Hills School Division No. 29. It serves a wide area drawing students from the surrounding agricultural population in addition to the village. The following graph shows the trend in student enrollment figures from 1980-1986 (Figure 6).

The decrease in enrollment between 1980 and 1981 can be explained by the loss of students attending from the Indian Reserve. Before the 1981 school year started, the Indian Reserve decided to opt out of the public school system and have rented a building in Mariapolis for their own school. This action has accounted for the decline in school enrollment by about 100 students.

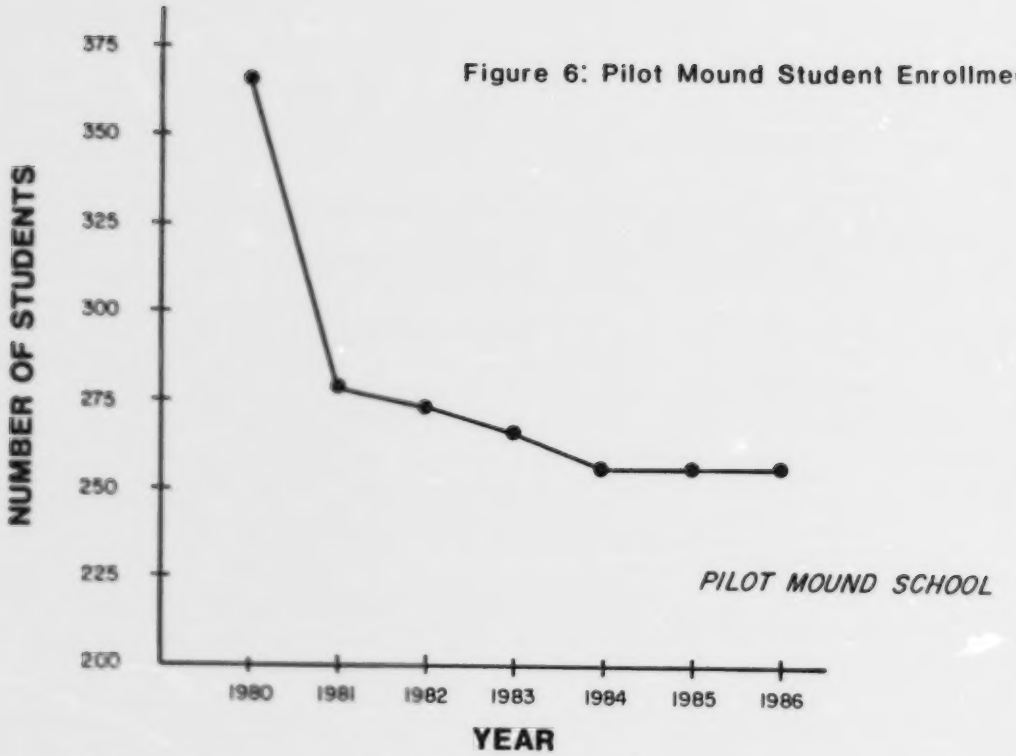


Figure 6: Pilot Mound Student Enrollment, 1980-1986

Source: Tiger Hills School Division No. 29

Since 1981 the student population has continued to decline at a slow rate with a plateau in the last 3 years. This downward trend is expected to continue into the near future but there are no plans for expansion or closing of the school. The Tiger Hills School Division offices have indicated, however, that they are working on the development of a "joint campus concept" between themselves and the Pembina Valley School Division to be in place by September, 1988.

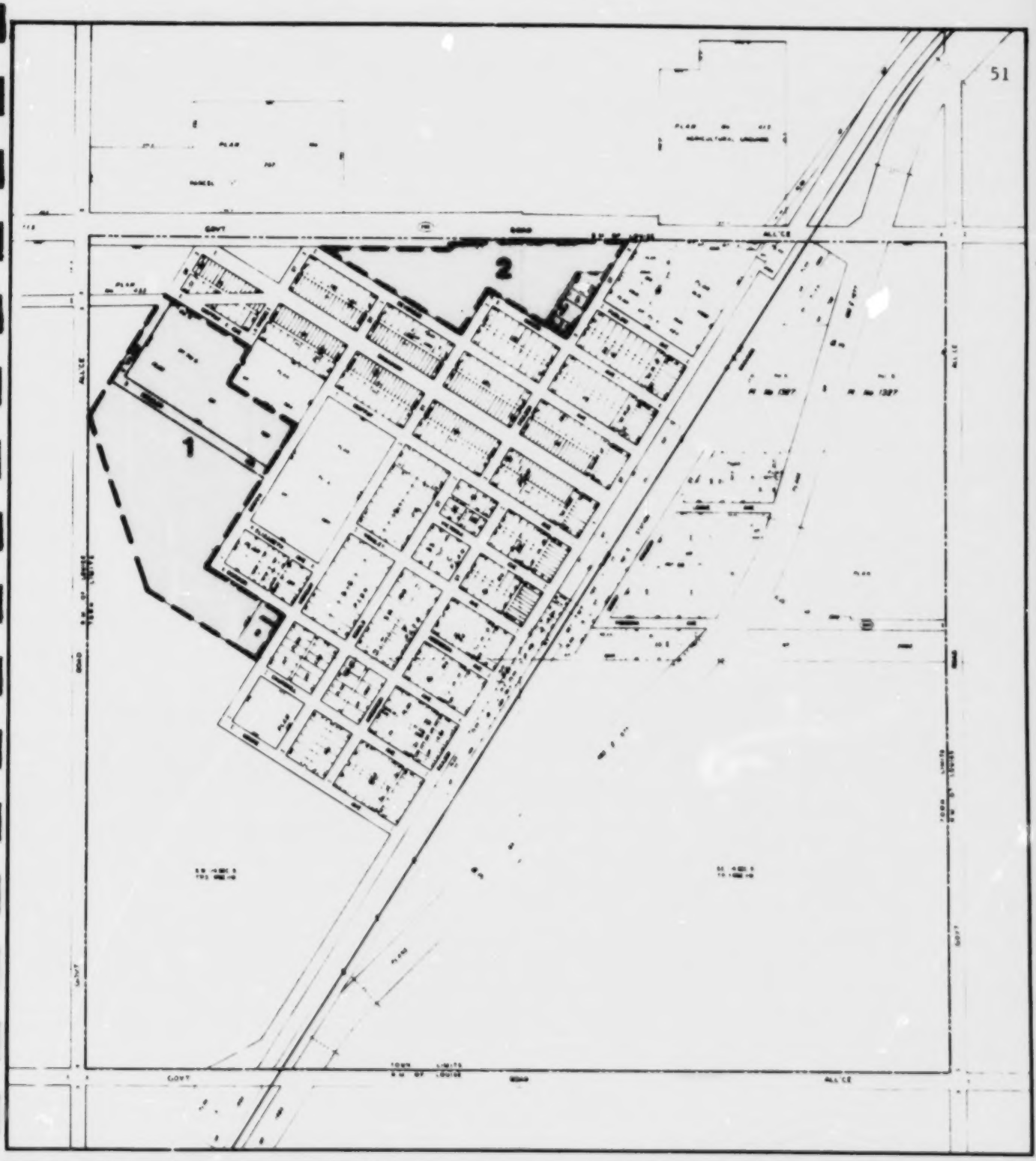
Municipal Services

On August 25, 1986 Reid Crowther & Partners Ltd. was commissioned by the Louise Planning District Board to undertake a municipal engineering background study which would "examine the extent, condition, and performance of existing utilities, to identify, where possible, current and potential deficiencies, and to recommend improvements whre necessary. Additionally the study will suggest in what manner expansion of servicing should be managed in order to provide for future growth and development."*

This section of the report summarizes their findings for the Village of Pilot Mound with respect to the sewer system, water system, solid waste disposal and future development areas:

- currently the supply and treatment components of the water system have sufficient capacity to provide for present domestic demands. The supply works (reservoir) have additional capacity for an increase of 611 persons; the treatment works, for an increase of 1,191 persons
- in order to provide for a fire flow of 61 liters/second (1/s)(800 IGPM) which would be within the recommended guidelines, the village must proceed with some 245m (800 feet) of main installation, a 64,000 liter (14,000 Imp. gallon) addition to the present reservoir, and replacement of the existing fire pump. Estimated cost of these improvements is $85,000
- neither the Manitoba Water Services Board, the owner of the supply works, nor the Village of Pilot Mound, are licensed with the Provincial Government for water use on Pilot Creek
- the sewerage system appears adequate for the present needs of the community except for five sections of main which have been installed below the minimum recommended slope
- elapsed time meters should be added to the pump control panel
- the system should be examined internally by means of a T.V. inspection program to determine the condition of the piping
- preliminary calculations indicate that the lagoons are operating slightly above the theoretical design capacity. The hydraulic loading of the system is undetermined at the present time and requires verification
- the closing of the Manco cheese plant has removed a quantity and quality loading from the lagoon system. While in operation the in-plant routines invariably allowed significant whey/milk products to gain entry to the lagoon, resulting in an over-loading of the treatment facility.

*Reid Crowther & Partners Ltd., "Louise Planning District, Municipal Engineering Background Study", April 1987.



PILOT MOUND
FUTURE
DEVELOPMENT AREAS

Legend:

Future Development Areas

Map No. 8

Source: Reid, Crowther & Partners Ltd.

- the lagoons have been located relatively close to the community and any future development should be positioned well away from the treatment site
- the solid waste disposal site is located approximately 2½ kms (1.5 miles) from the village and is shared with the R.M. of Louise. Due to high groundwater table, Provincial authorities recommend that the site be relocated

Further residential expansion areas in the Village of Pilot Mound as determined by Reid Crowther & Partners Ltd. have been shown on Map #8. The choice of each area is based upon the following factors:

- both proposed future development areas can be serviced by a gravity sewer system
- Area 1 is preferred over Area 2 as it is located near the existing built-up residential area and school
- Area 1 is partly owned by the village and could meet housing demand for the next 30 years
- Area 2 is situated too close to the lagoons for residential development.
- comparison of costs for servicingeach area should be done on a per lot basis after further design studies have been completed

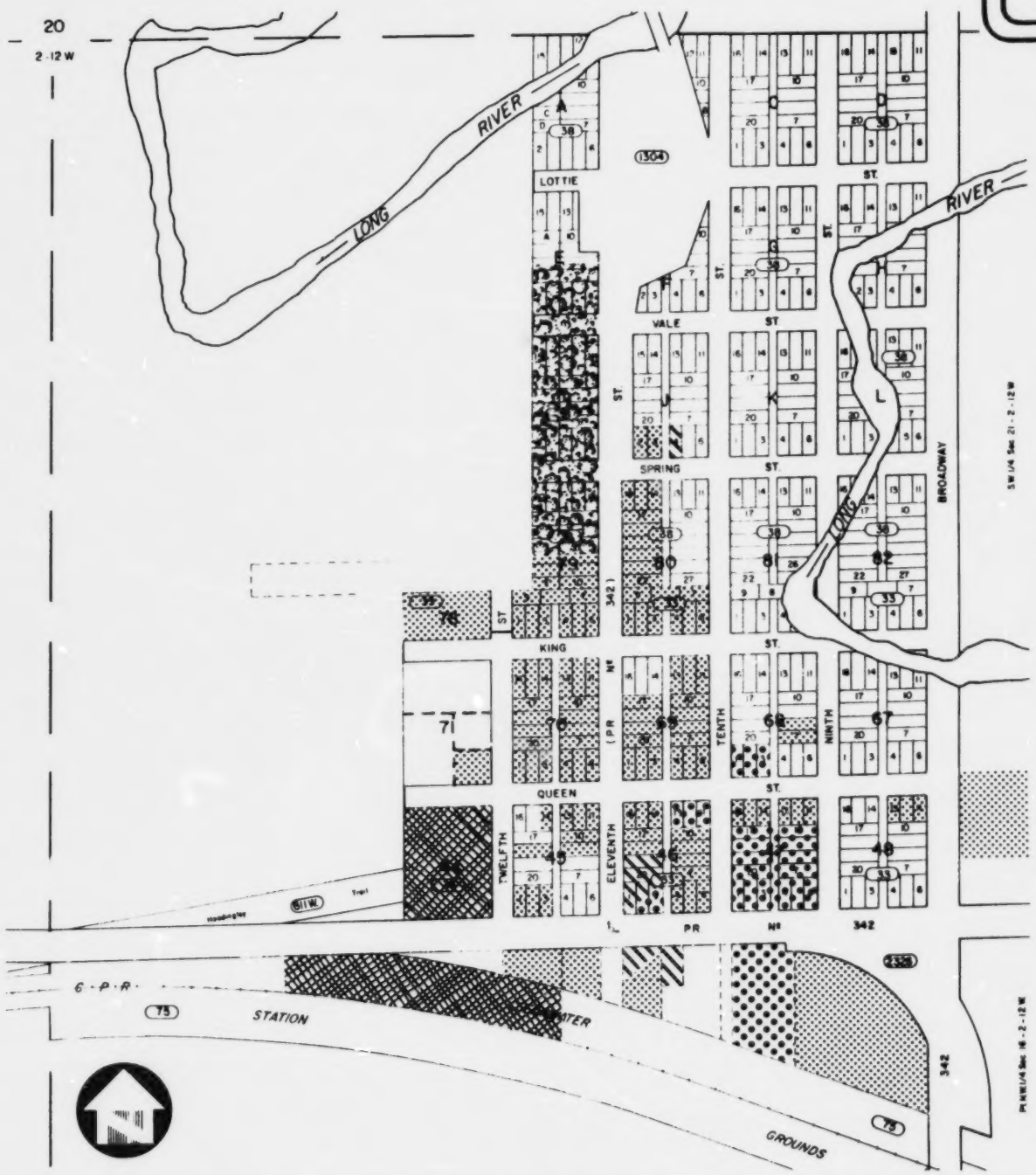
Other minor issues to consider are:

- Broadway connection to P.R. #253 presents odd angle and may be a traffic problem
- avoid conflicts with livestock operation located on west side of village
- development setbacks near anhydrous ammonia site on south outskirts of village
- limit development to west side of P.T.H. #3
- a street numbering system should be instituted

4.3 CLEARWATER

Land Use

Land uses in the U.V.D. of Clearwater exhibit an orderly character with residential uses spread throughout and commercial uses concentrated along the highway (P.R. #342) passing through the village (see Map #9). An area at the north end of the community has been set aside for recreational facilities including the curling rink, arena and sports fields. Industrial activity is situated along the highway with a construction contractor and machinery storage area on the north side and grain elevators and fertilizer storage on the south adjacen to the railway right-of-way. Institutional uses are few in number and include the Clearwater School, two churches, the community hall and post office.

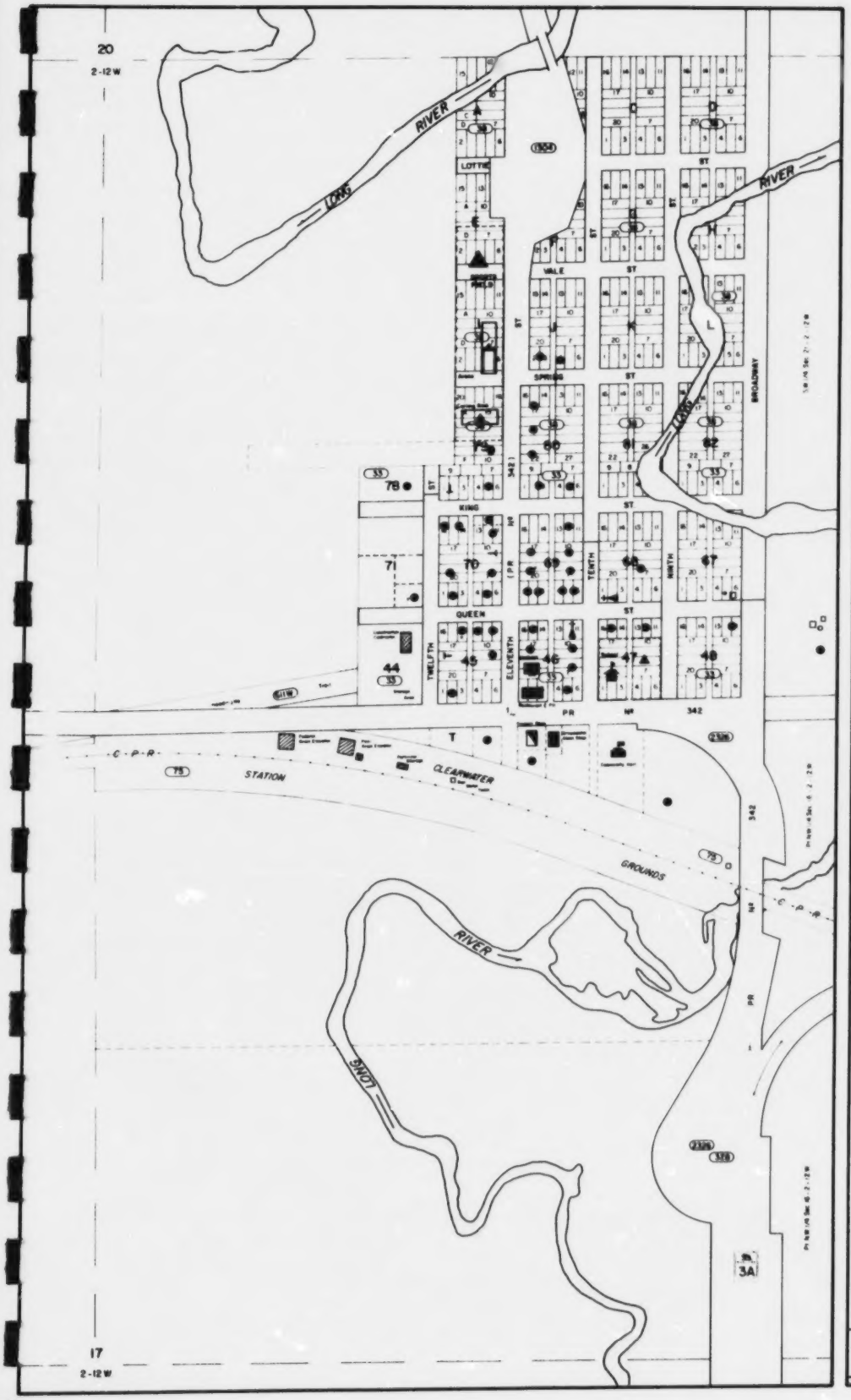


LAND USE
(Generalized)

Map No. 9

CLEARWATER
R.M. OF LOUISE

- Residential
- Institutional
- Commercial
- Industrial
- Park or Recreational
- Vacant



CLEARWATER
R.M. OF LOUISE

BUILDING USE

Legend:

- Residential
- Mobile Home
- Commercial
- Commercial with Residential
- Industrial
- Church
- Public Building or Utility Service
- School or School Related
- Park or Recreation Area
- Farm Related or Accessory Building
- V Vacant

Map No. 10

Note: [ ] indicates Metes and Bounds Description

SCALE 200 0 200 400 FEET

For General Study Purposes Only

Manitoba
Municipal Affairs
Municipal Planning

DATE APRIL 1986 DRAWING NO 192 102 A
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From the map, it appears that Clearwater has an ample supply of vacant lots. As the plans of subdivision containing these lots have been in existence for some time, it may be a good idea for the municipality to consider declaring these plans obsolete. New lots in the appropriate locations can then be subdivided as the demand for development occurs. At the present time, excluding those portions of Plans 33 and 38, there are approximately 9 vacant lots available for new residential development within the already built-up area of the village. These lots could probably be used up by infill development before any new subdivisions are brought on the market. Clearwater will be limited in its future development potential by its location near the river valley with the physical constraint of the topography of the area as well as any drainage problems.

Business and Professional Services

The number of businesses operating in Clearwater as of the spring of 1987 is small as shown in following list by sector:

Automotive - (1)

Building and Hardware - (1)

Hotel, Food and Beverage - (2)

Personal Services - (1)

Agri-Commercial - (3)

Industrial - (1)

School Enrollment

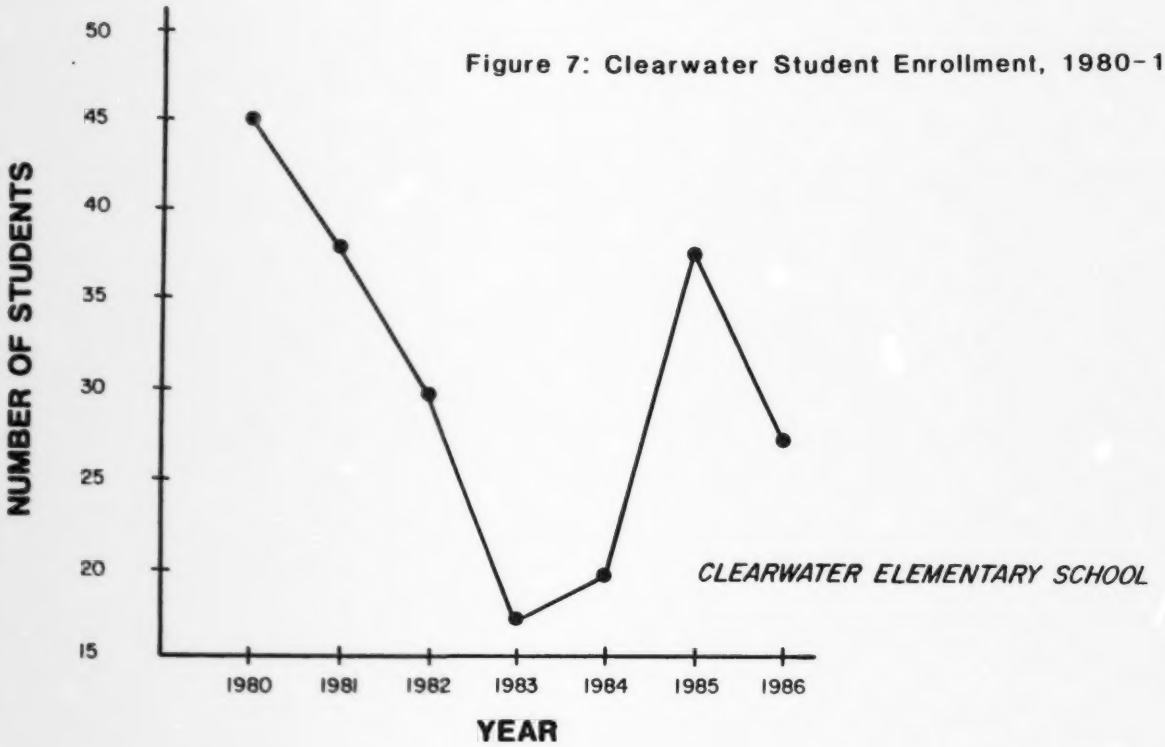
The Pembina Valley School Division operates only one school within Clearwater being the Clearwater Elementary School. The graph in Figure 7 shows the trend in student enrollment 1980-1986. The increase after 1984 can be explained because the Mather School (R.M. of Roblin) was closed at the end of 1984 school year and students were absorbed by the Clearwater and Crystal City Elementary Schools. Extrapolation of the line on the graph would probably be in a downward direction as the student population is not expected to increase.

Municipal Services

On August 24, 1986 Reid Crowther & Partners Ltd. was commissioned by the Louise Planning District Board to undertake a municipal engineering background study which would "examine the extent, condition, and performance of existing utilities, to identify, where possible, current and potential deficiencies, and to recommend improvements where necessary. Additionally the study will suggest in what manner expansion of servicing should be managed in order to provide for future growth and development."*

*Reid Crowther & Partners Limited, "Louise Planning District, Municipal Engineering Background Study", April 1987.

Figure 7: Clearwater Student Enrollment, 1980-1986

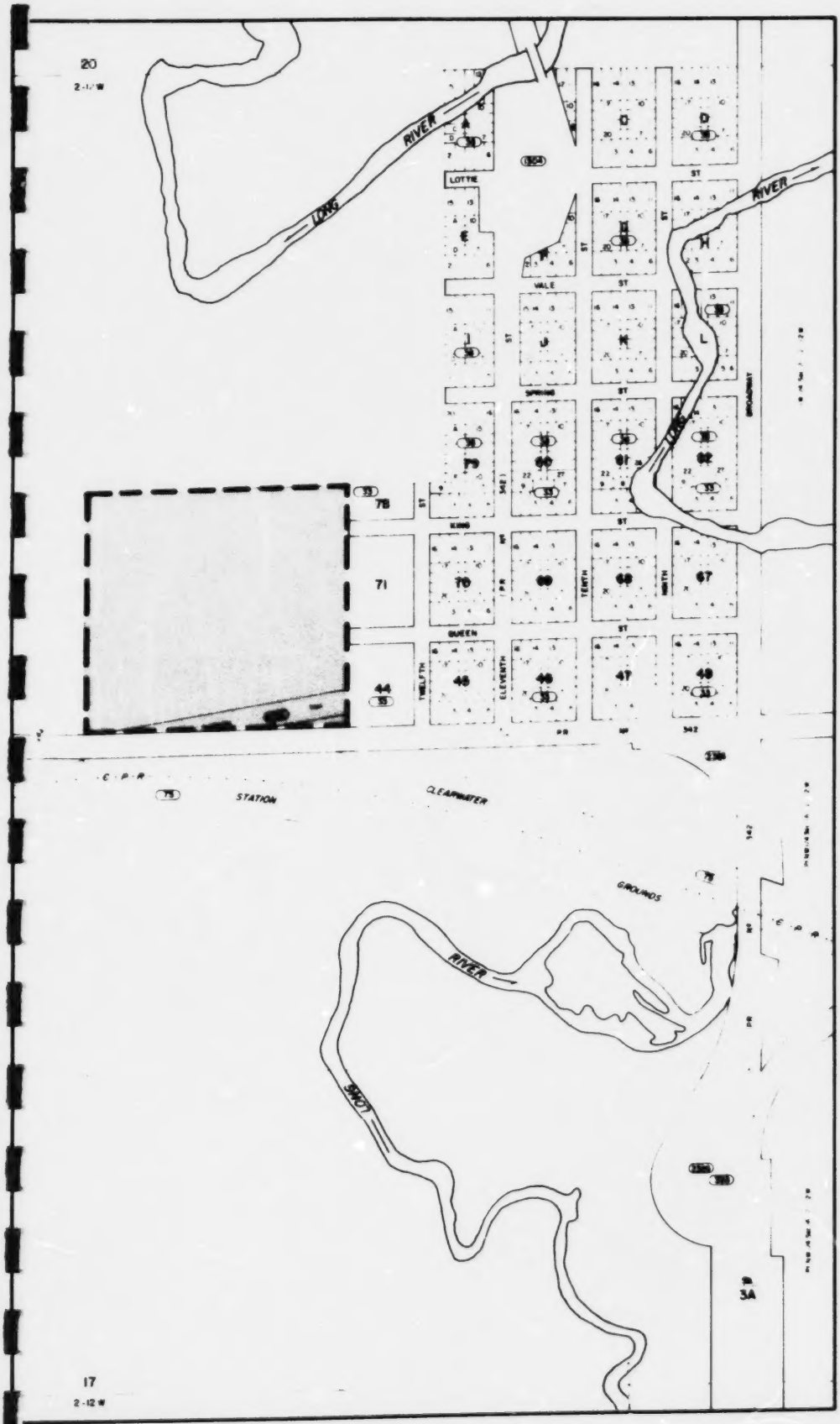


Source: Pembina Valley School Division No. 27

This section of the report summarizes their findings for Clearwater with respect to the water system, sewer system, solid waste disposal and future development areas:

- the supply source for water is a dug well in the vicinity of the Long River and the well appears to provide more than adequate water for the users
- there are 48 existing connections to the water system
- low pressure is a current problem with the water system and may be the result of:
  1. a blockage in either the system or the service connections
  2. the pump not operating at peak efficiency
  3. per capita demand being higher than estimated
  4. pipe sizes being smaller than believed
  5. a combination of all of the above
- recommended improvements to the system include installation of a second pump and pressure tank as well as a flow meter to record usage. Cost of these works is estimated at $1,000.
- verification of location, size and material of each section of water main should be completed
- the water system lacks continuous chlorination equipment as the residents have resisted this bacterial safeguard. With recent changes to The Public Health Act Regulations, the municipality will be required to chlorinate this community supply.
- the community is serviced by private systems for sewage disposal
- solid waste is dumped into a pit positioned near the edge of the Long River valley approximately ½ mile (.8 km) west of Clearwater. A new site may soon be required in an alternate location.
- a separate liquid waste disposal site (for sewerage wastes) in full compliance with Clean Environment Act Regulation 208/76, does not exist.

There is only one area in Clearwater which would be suitable for future development, if required. New housing construction should first be directed to available vacant lots within the built-up area. Reid Crowther & Partners Ltd. has indicated that the eastern portion of the future expansion area shown on Map 11 is low lying and boggy and that the west sector of the parcel would be more appropriate for new residential development.



CLEARWATER
R.M. OF LOUISE

FUTURE DEVELOPMENT AREAS

Legend:

Future Development Area

Map No. 11

Source:

Reid, Crowther & Partners Ltd.

Manitoba
Municipal Affairs
Municipal Planning

DATE APR 1984 DRAWING NO 145-102
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AGRICULTURAL RESOURCES

The information presented in this section of the Background Study was obtained from a supplementary report written by the Department of Agriculture. Only a summary of their findings is given here; the report can be obtained in its entirety from their department.

5.1 INTRODUCTION

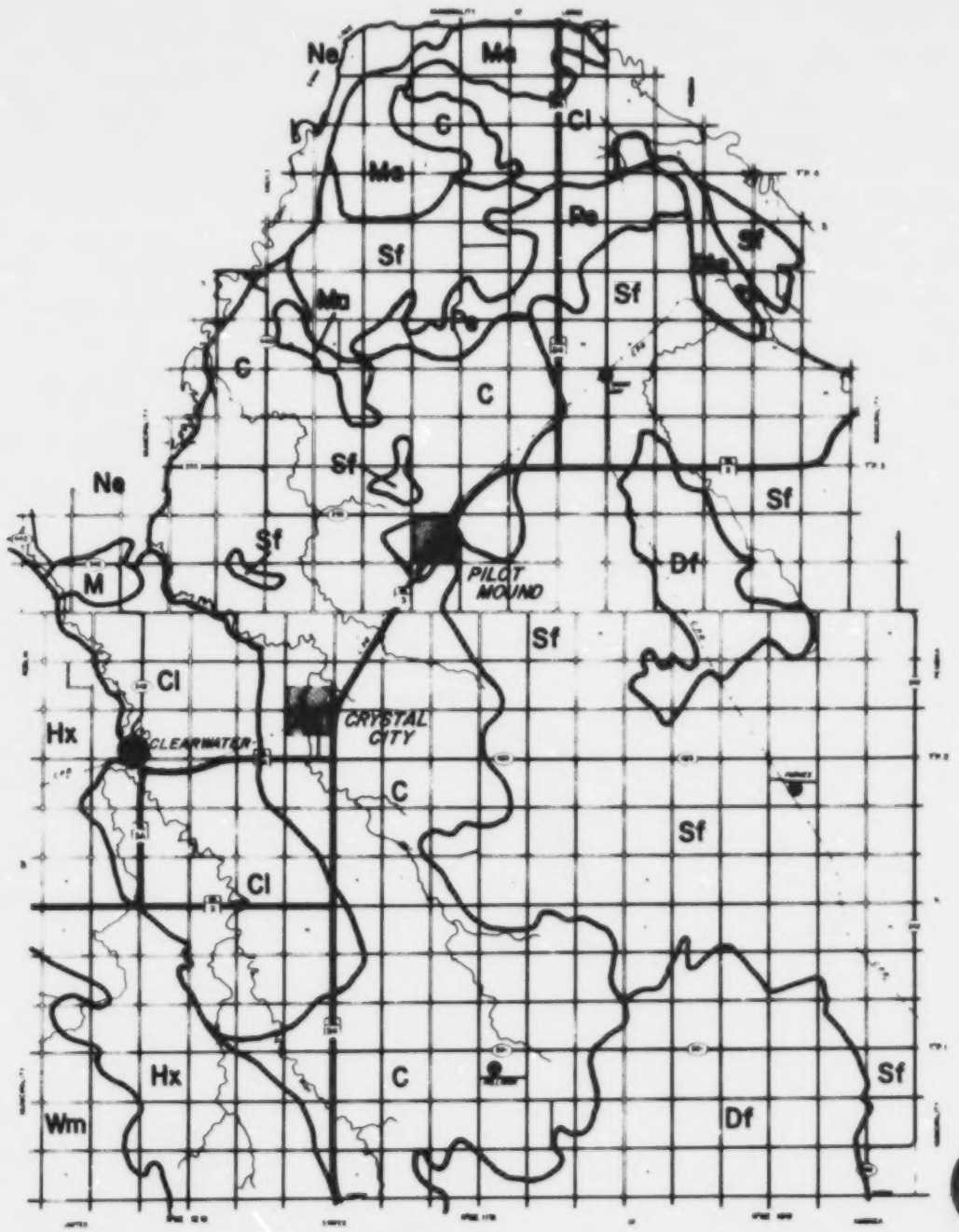
The land base used for agriculture is the most important natural resource in the R.M. of Louise. The two incorporated towns of Pilot Mound and Crystal City, plus the Village of Clearwater serve mainly as service centres for the agricultural industry.

Production of agricultural crops is greatly influenced by the quality of the land base and the climate. While Louise Municipality does not have any Class 1 soils, 88% of the land base in Class 2 and 3 soils which can be highly productive for a considerable number of agricultural crops.

5.2 SOILS

There are four main soil types in the R.M. of Louise with lesser amounts of three or four other soils. These soils were developed on boulder till or reworked boulder till and range from Clay Loams to Gravelly Loam and course Clay Loams with differing substrata. The four main soils are called: Snowflake, Darlingford, Carrol, and Heaslip. The first three are quite fertile soils, highly productive with fairly level to rather long undulating slopes over much of the municipality. The northwest, north and northeast sides of the municipality are bounded by the Pembina Valley with eroded slopes which will require special attention. Stones are variable but not nearly as plentiful as might be expected when the parent material is glacial till. Soil erosion by wind and water can be a problem. Soil drifting occurs fairly readily during periods of drought.

The other soils are Marringhurst, developed on gravelly outwash, usually fairly level with excessive internal drainage making drought and wind erosion serious problems. Pembina Clay Loam and Waskada Light Loams to Clay Loams are found in the northern part of the municipality and the very southwest corner (see Map 12).



SOILS

Source: Department of Agriculture

R.M. OF LOUISE

Sf Snowflake Clay Loam	**M** Marringhurst Gravelly Loam (Course Clay Loam)
Df Darlingford Clay Loam	**Ma** Manitou Clay Loam
C Carroll Clay Loam to Clay	**Ne** Neelin Loam (Silty Clay Loam)
Cl Carroll Mixed Loams	**Wm** Waskada Modified (Light Loams to Clay Loams)
Hx Heaslip Complex	**Pe** Pembina Clay Loam

Map No. 12

5.3 SOIL CAPABILITY FOR AGRICULTURE

Mineral soils are grouped in seven classes on the basis of soil survey data and a field survey. The Canada Land Inventory Capability Classes form a basic integral part of the Provincial Land Use Policies. The soil classifications and distributions according to the Canada Land Inventory system are shown on Map 13 for the R.M. of Louise. (A description of each of the class types is given on the page following the map.)

Maps indicate that by far the largest area -- 140,348 acres or 58% of the municipality is Class 2 soils. The limitations in this class are moderate and the soils can be managed and cropped with little difficulty. Under good management, they are moderately high to high in productivity for a fairly wide range of crops.

5.4 EROSION

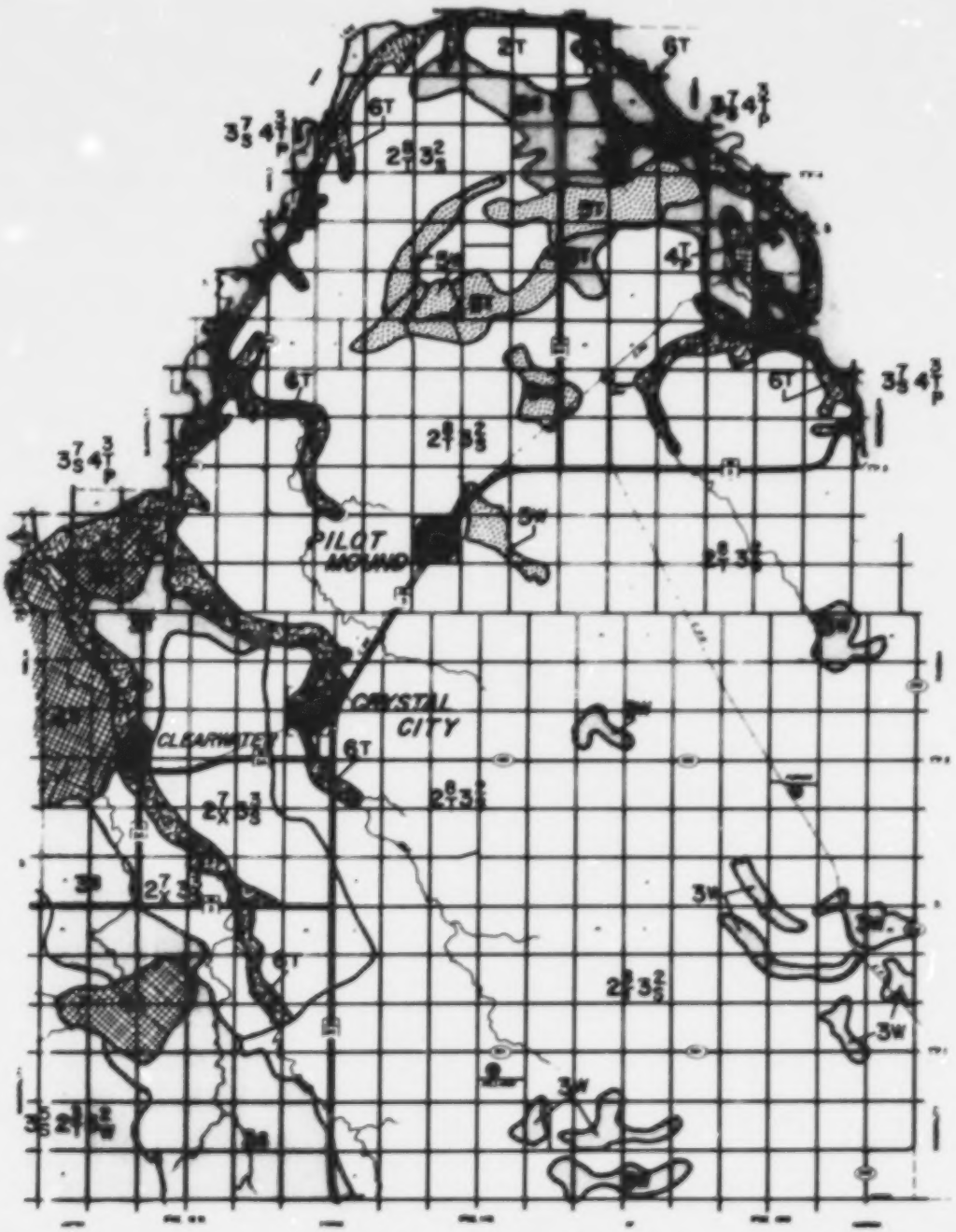
Wind and water erosion have occurred to a greater or lesser degree over most of the municipality. Wind erosion is usually more severe on the sandier soils, however, the fine loam and clay particles can erode considerably if conditions are droughty and windy and proper management is not applied. Protection of the remaining tree cover within the municipality, plus encouragement to plant field shelterbelts will aid in reducing wind erosion. In the areas which have a steep slope, a permit system for tree clearing may help to prevent severe soil erosion. Water erosion on cultivated fields can be severe in the municipality and as a result much of the land is used for hay production as a supplement to livestock operations and pasturelands for grazing.

5.5 LIVESTOCK

In the R.M. of Louise, livestock production is very important. Table #19 indicates the livestock numbers showing changes from 1961 to 1981. (Note: the 1986 statistics are not available at this time.)

There are cattle in the whole of the municipality but certain areas have much heavier concentration. Township 1 (Range 10, 11 and 12) and the southern half of Township 2 (Ranges 10 and 11) do not have a large number of cattle. The area around Clearwater and north to the Pembina Valley have fairly large numbers of cattle, mostly beef. The area north of Crystal City and Pilot Mound has a fairly high concentration of cattle including a feedlot with approximately 2,000 head capacity. The north end of the municipality has dairy cattle as well as beef cattle and hogs.

The livestock concentrations appear to be along the Pembina River, south and north of Clearwater, and on the lower Class 3 to 5 steeper sloping land at the north end of the municipality. The runoff from all of this land is eventually discharged into the Pembina River.



SOIL CAPABILITY

(FOR AGRICULTURE)

Class 2
Class 3
Class 4
Class 5
Class 6

R.M. OF LOUISE **Map No. 13**

Source: Canada Land Inventory

LEGEND:	SOIL CAPABILITY FOR AGRICULTURE
Class 1	NO SIGNIFICANT LIMITATIONS FOR CROP PRODUCTION
Class 2	MODERATE LIMITATIONS THAT RESTRICT THE RANGE OF CROPS
Class 3	MODERATELY SEVERE LIMITATIONS THAT RESTRICT THE RANGE OF CROPS
Class 4	SEVERE LIMITATIONS THAT RESTRICT THE RANGE OF CROPS
Class 5	VERY SEVERE LIMITATIONS THAT RESTRICT THEIR CAPABILITY FOR PRODUCING PERENNIAL FORAGE CROPS, AND IMPROVEMENTS PRACTICES ARE FEASIBLE.
Class 6	CAPABLE ONLY OF PRODUCING PERENNIAL FORAGE CROPS, AND IMPROVEMENT PRACTICES ARE NOT FEASIBLE
Subclass P	STONINESS - stones interfere with tillage, planting and harvesting
Subclass S	ADVERSE SOIL CHARACTERISTICS - one or more of the following: undesirable structure, low permeability, a restricted rooting zone because of soil characteristics, low natural fertility, low moisture holding capacity, salinity
Subclass T	ADVERSE TOPOGRAPHY - either steepness or the pattern of slopes limits agricultural use
Subclass W	EXCESS WATER - excess water other than from flooding limits use for agriculture. The excess water may be due to poor drainage, a high water table, seepage or runoff from surrounding areas
Subclass X	TWO OR MORE ADVERSE CHARACTERISTICS WHICH SINGLY ARE NOT SERIOUS ENOUGH TO AFFECT THE CLASS RATING.

Note: Large numerals denote capability classes.
Small numerals placed after a class numeral give the approximate proportion of the class out of a total of 10
letters placed after class numerals denote the subclasses, i.e. limitations

Eg. $2^{7}_{x}3^{3}_{s}$

LIVESTOCK COMPARISONS 1961-81

R.M. of LOUISE

Year Year	Cattle		Pigs	Sheep	Horses	Hens/ Chickens	Number of Farms
	Beef	Milk Cows					
1961	13,790	1,504	10,020	1,114	563	59,970	459
1966	15,504	907	10,055	567	571	23,083	405
1971	16,539	746	19,958	469	315	16,422	366
1976	19,173	415	8,955	--	N/A	11,291	343
1981	14,879	467	15,376	282	275	10,912	348

* Statistics Canada

TABLE 19

5.6 AGRICULTURAL DEVELOPMENT

The agricultural industry is the major industry in the municipality and represents a very large component of the region's economic activity. Farm size has grown in line with other areas of the province and the number of farms has obviously decreased. (Figures 8 and 9). In 1981, out of 348 farmers, 106 own farms of 760 acres or larger which is 30% of the total number of farms (Figures 9 and Table 20).

In recent years, agricultural production in Manitoba has undergone many changes due to improved technology and changing economic conditions and the R.M. of Louise has been a part of that change. Larger farm units, crops or livestock, greatly increases the capital investment in the farm firm.

The evolution of the large livestock and poultry industry, from the relatively small and diversified, individual farms, into the large scale highly specialized animal production units of today, are the result of increased mechanization in product handling, technology and nutrition. Inherent in these large operations are waste management problems, odours, and flies.

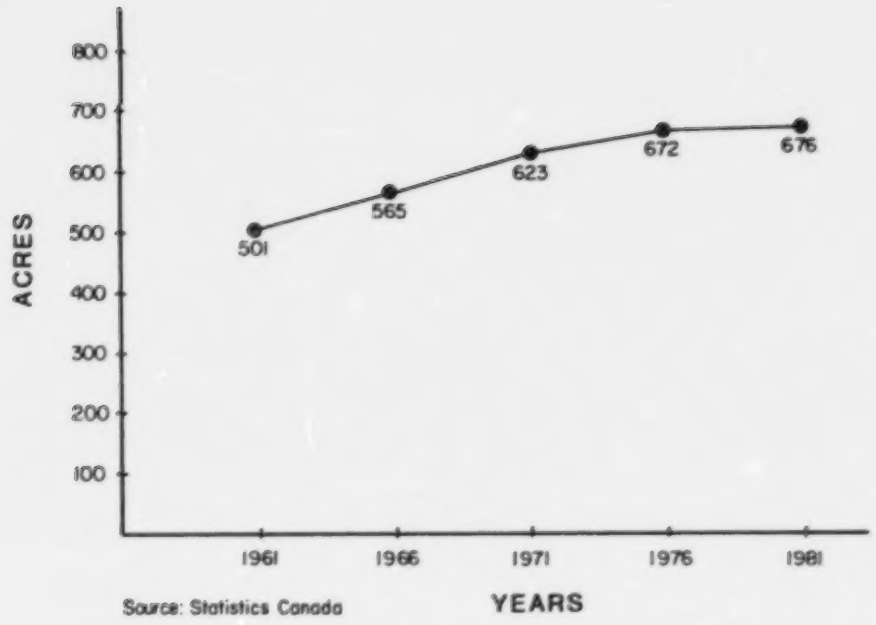
Agriculture is a changing, dynamic industry. The trends in crop production have been as dramatic as those in livestock production. Some of the changes presently taking place in crop production are as follows:

1. There is a steady trend to farm consolidation which is the result of new technology making it physically possible for one farmer to operate larger tracts of land.

2. New technologies in plant breeding introduce new cereal varieties and oil crops which are presently grown in the municipality.

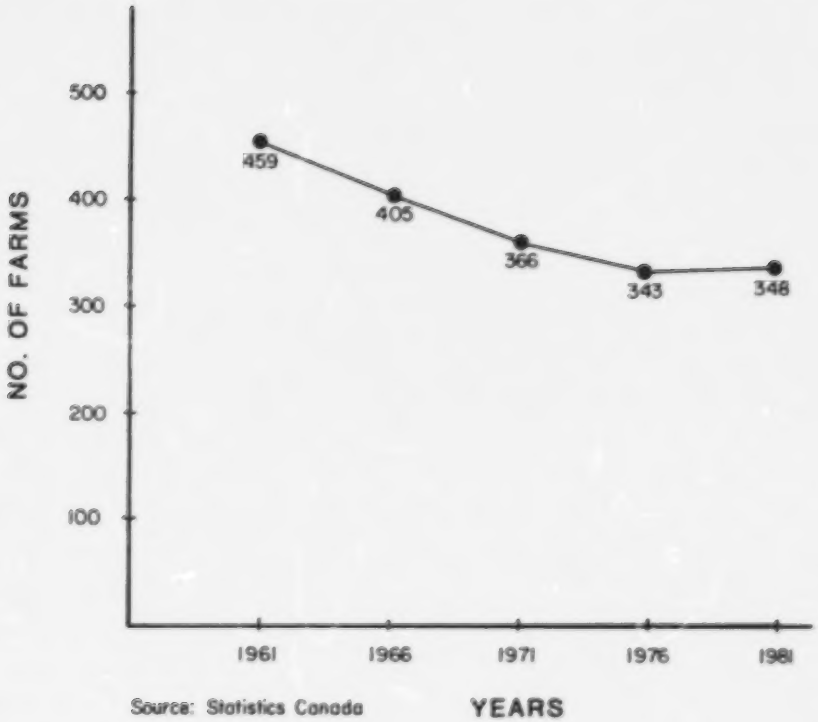
3. New technology is also introducing new chemical sprays which allow for higher yields and more mechanization. At present, research is showing that aerial application of various weed and pest control chemicals applied to bush and pasture lands will dramatically increase carrying capacities. This is important when assessing some of the lower class land for future agricultural use.

4. New technology in water management control will result in the drainage or the irrigation of soils which at one time were considered physically unfit for agricultural use. New methods of trash management have allowed production to take place on fairly fragile sandy type soils.



Source: Statistics Canada

Figure 8. AVERAGE FARM SIZE IN ACRES



Source: Statistics Canada

Figure 9. NUMBER OF FARMS

SIZE OF FARM BY ACRE CATEGORY

R.M. of LOUISE

Year	Under 3 A.	3-9	10-69	70-239	240-399	400-459	560-759	760-1119	1120-1599	1600-2239	2240-2879	2880+
1961	3	3	6	35	153	115	71	52	14	6	1	0
1966	4	4	7	20	120	84	77	57	20	8	3	1
1971	2	3	10	27	88	66	69	61	18	16	5	1
1976	2	1	5	26	77	58	67	67	18	13	6	3
1981	3	3	8	41	72	61	54	58	21	14	10	3

* Statistics Canada

TABLE 20

5.7 IMPACT OF NON-FARM DEVELOPMENT ON FARMING

Problems are created by the scattering of random non-farm residences in an agricultural area. Canada is a large country, but only about 7% of its land is considered prime agricultural land. The production of food in Canada is the most important industry, therefore, it is very important to the country, the province, the Planning District and every individual that this land base be preserved for present and future generations. The indiscriminate use of this land base can have long-range serious effects. The location of one non-farm resident in an agricultural area can have shadow effects which cover a much larger area that the 2 or 5 acre lot which it uses, and as a result restrictions have been known to be placed on the agricultural investment.

Although rural non-farm development has its advantages, general observations from residents often include concern about odours, flies and noise from nearby livestock operations. Also they may demand a level of urban-type services which are not easily supplied by the municipality without great costs to local taxpayers. Established farmers, on the otherhand, may face increased fencing costs, the nuisance of pets bothering livestock, an increase in land values because of smaller parcels raising the possibility of increased assessment and higher taxes, an increased possibility of damage suits from drift of chemicals to trees and gardens of non-farm residences, increased fragmentation of land, a change in rural population composition and community structure. These pros and cons of rural residential development are general trends gathered from province-wide surveys and do not apply strictly to the Louise District.

5.8 SUMMARY

- 88% of the agricultural land base is in C.L.I. Class 2 and 3 soils which are moderately productive for crops
- the villages serve mainly as service centres for the agricultural industry
- water and wind erosion can be severe in the municipality and may restrict some lands to hay production and pastureland
- livestock production forms a significant percentage of the agricultural activity in the district with concentrations along the Pembina River
- average farm size has grown while the number of farms has decreased
- random non-farm development may have an adverse effect on farming

TRANSPORTATION NETWORK

This chapter of the Background Study provides a discussion of the transportation networks in the Louise Planning District area with specific reference to the provincial highway system. The discussion here is based upon a report made available by the Department of Highways and Transportation giving background information for the Louise Planning District Development Plan. Only excerpts from their report have been included here; the entire document can be obtained directly from their department.

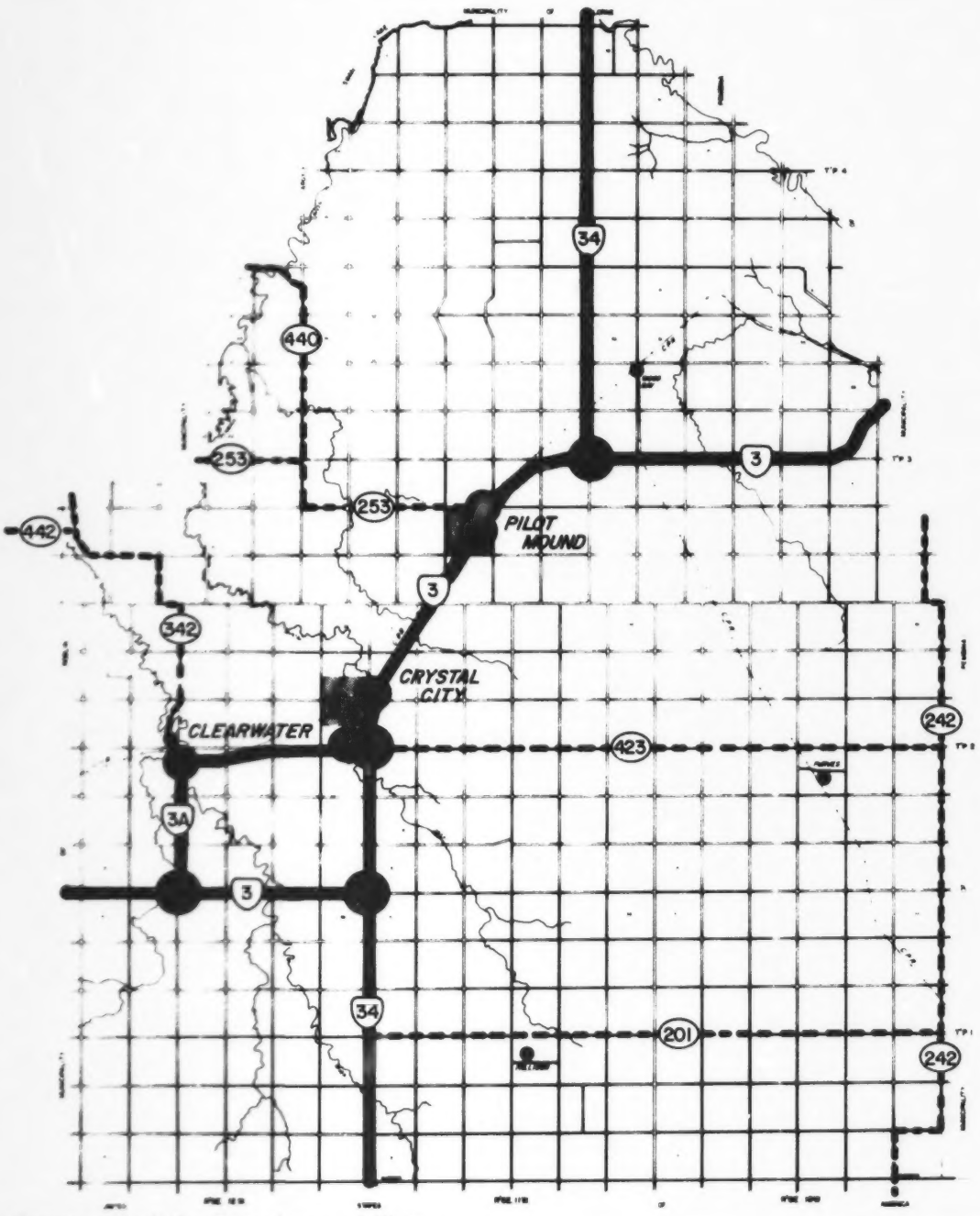
6.1 PROVINCIAL HIGHWAYS

The provincial trunk highway system in the R.M. of Louise has been shown on Map 14. This system is formed by P.T.H. Nos. 3, 3A and 34. The provincial road system has also been shown on Map 14. This system is formed by Provincial Road Nos. 201, 242, 253, 342, 423, 440 and 442. That part of the Crystal City Access Road which lies outside the village boundaries is also under provincial jurisdiction.

All provincial trunk highways in the Louise Planning District are Limited Access Highways. Under the Highways Protection Act, no access to these highways may be constructed except by permit from The Highway Traffic Board. Permits are also required from the Board for the placement of any structure within the following control lines:

- 125 feet (38.1m) from the edge of right-of-way of P.T.H. Nos. 3, 3A and 34.
- 500 foot (152m) radius control circle centered at the intersection of P.T.H. No. 3 and P.T.H. No. 34, P.R. 423 and 342.
- 350 foot (107m) radius control circle centered at the intersections of P.T.H. No. 3 and the Pilot Mound and Crystal City Access Roads; as well as at the intersection of P.T.H. No. 3A with P.R. 342 and at the south junction of the Crystal City Access Road.

All provincial roads serve as collectors bearing municipal traffic to the Provincial Trunk Highway System and are under the jurisdiction of the Department of Highways and Transportation. Under the Highways and Transportation Department Act, permits are required from this Department for the placement of any structure within 125 feet (38m), 50 feet (15m) in the case of plantings, from the edges of right-of-way of these highways. (NOTE: Under the same Act, permits are also required for the placement of any plantings within 50 (15m) from the edges of right-of-way of any Provincial Trunk Highway in the Louise Planning District.)



Source: Manitoba Department of Highways

TRANSPORTATION NETWORK

3 Provincial Trunk Highway (Limited Access)

201 Provincial Road

350' Control Circle

500' Control Circle

R.M. OF LOUISE

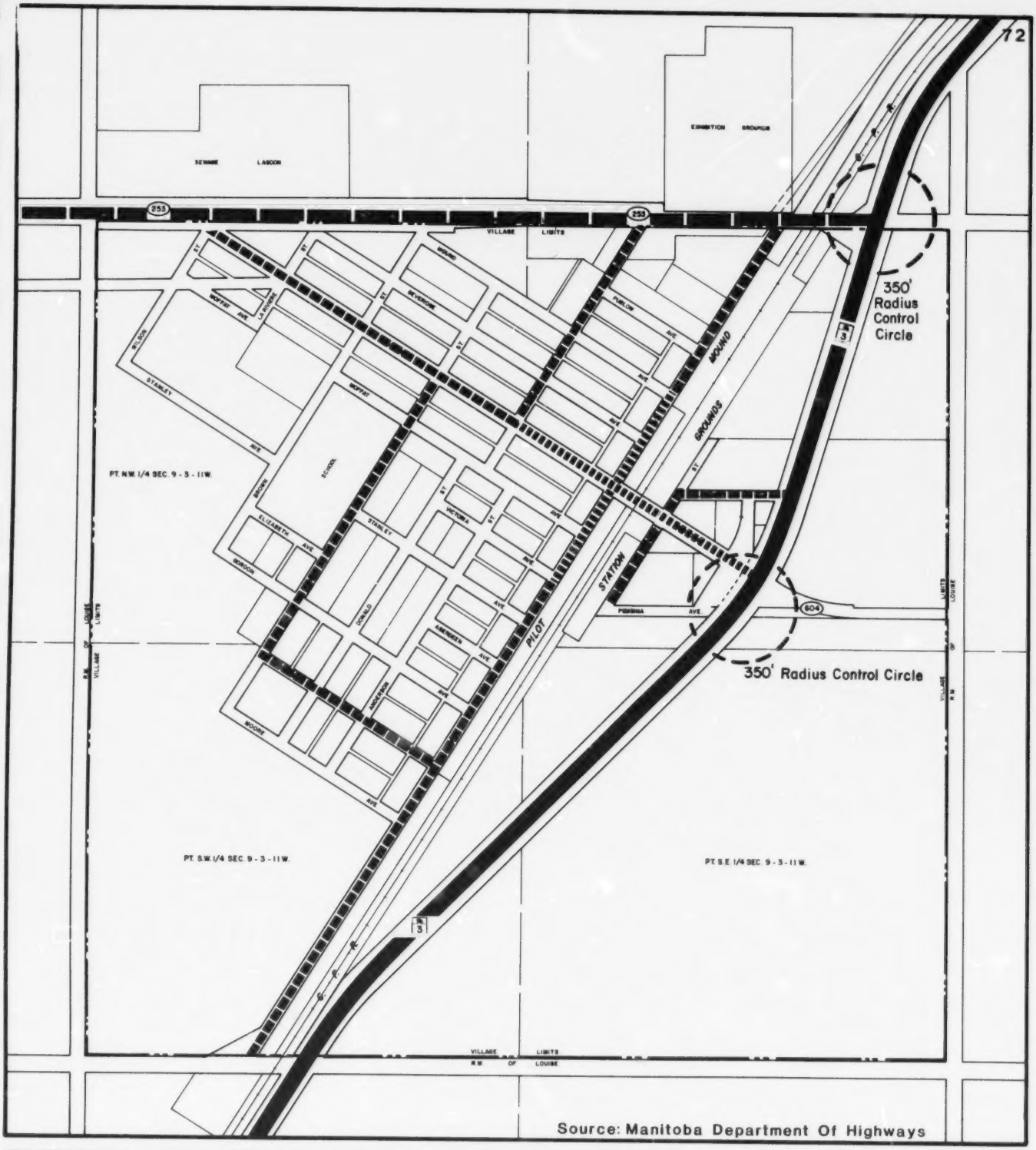
Map No. 14

Exceptions to the above are noted as "Designated Roads" within the Villages of Crystal City and Pilot Mound. These roads are "Designated" which means that although the Department of Highways and Transportation is responsible for 100% of the construction and maintenance of these roads, the local Villages of Pilot Mound and Crystal City are the traffic authorities in establishing access and building setback guidelines (see Maps 15 and 16).

Some streets within the Villages of Pilot Mound and Crystal City and Clearwater are Grant-in-Aid streets. These streets are the ones presently eligible (in approved cases) for 50% cost sharing of construction only from the Department of Highways and Transportation. Storm sewers, street lighting, traffic lights and sidewalks are not eligible for grant-in-aid (see Maps 15-17).

In addition to the inventory of provincial highways and statutory controls, the Department of Highways has expressed the following concerns:

- all municipal roads in this area are under the jurisdiction of the local municipal authority who are responsible for the establishment of municipal road standards
- the development of a safe, convenient and efficient network of roads that are able to move people, goods and services relies heavily on suitable land use and road planning
- P.T.H. #3 and #34 form important north-south and east-west corridors in this part of the province
- all Provincial Roads in this area are important highway corridors
- "highway commerical" uses which include service stations, roadside restaurants and cafes, motels and hotels, and uses of like character that provide essential services to the highway users next to provincial highways, are considered acceptable at designated locations
- "agri-commercial" uses include implement dealerships, fertilizer storage and distributorships, bulk oil dealerships, commercial storage and sales of anhydrous ammonia and are considered distinct from "highway commercial" uses
- satisfactory storm drainage must be provided to service any development adjacent to the provincial highways system
- the location of gravel resources in the Planning District area is important to the department
- frontage roads constructed adjacent to the right-of-way of another road are uneconomical both in terms of initial capital investments and annual maintenance costs



Legend:

- Provincial Trunk Highway (Limited Access)
- Provincial Road
- Designated Roads
- Grant - In - Aid Streets
- Control Circle

Manitoba
Municipal Affairs
Municipal Planning

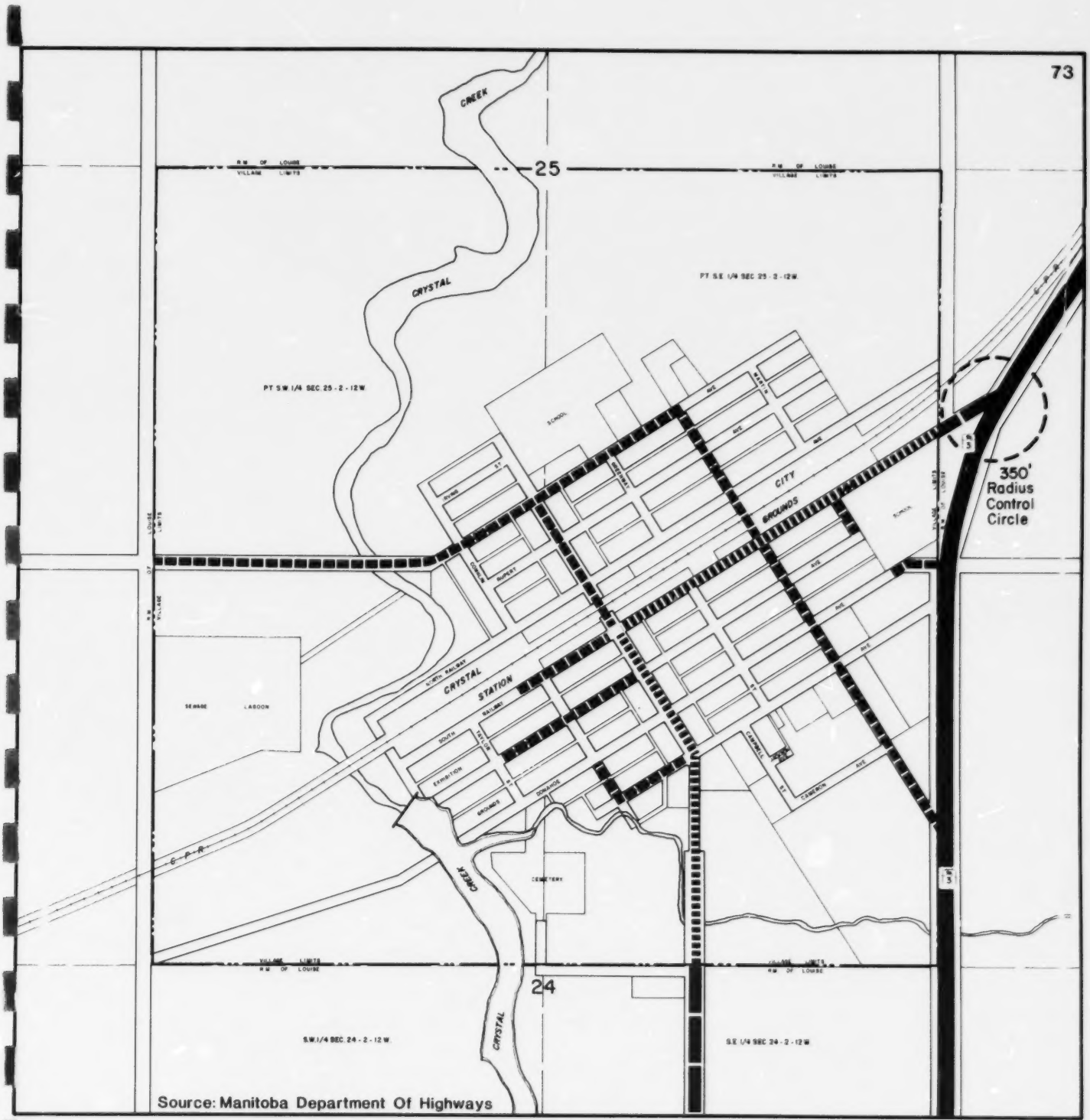
DATE APR. 1985 DRAWING NO 108 - 101 A
REVISED DEC. 1986 DRAWING NO 343 - 101

VILLAGE OF PILOT MOUND

MAJOR ROADS

(Block Plan) **Map No. 15**

For General Study Purposes Only.



Source: Manitoba Department Of Highways

Legend:
- Provincial Trunk Highway (Limited Access)
- Provincial Road
- Designated Roads
- Grant - In - Aid Streets
- Control Circle

VILLAGE OF CRYSTAL CITY

MAJOR ROADS

(Block Plan)

Map No. 16

For General Study Purposes Only

Manitoba
Municipal Affairs
Municipal Planning

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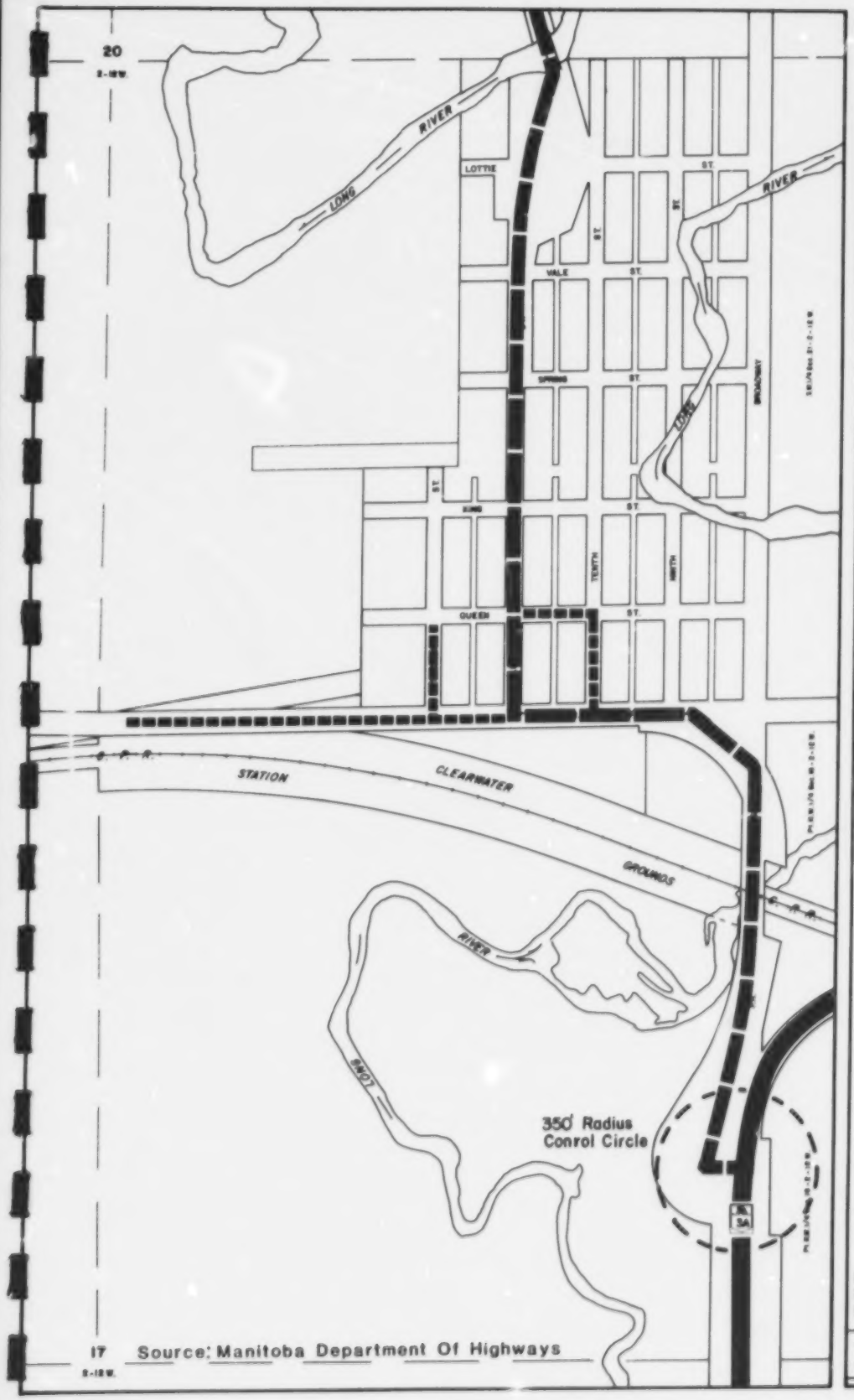

CLEARWATER
R.M. OF LOUISE

MAJOR ROADS

Legend
- Provincial Trunk Highway (Limited Access)
- Provincial Road
- Grant-In-Aid Streets
- Control Circle

Map No. 17

BLOCK PLAN

Manitoba
Municipal Affairs
Municipal Planning

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REVISED DRAWING NO.

6.2 RAIL, BUS SERVICE

The R.M. of Louise is serviced by rail and bus transportation in addition to the adequate highway system. Canadian Pacific Railway maintains a railway line through Wood Bay - Pilot Mound - Crystal City which provides freight access to points in Western Canada and through Winnipeg to the Lakehead. The branch line which serviced Purves to Snowflake is no longer in operation.

Grey Goose Bus Lines provides daily passenger service to the villages along P.T.H. #3 to western Manitoba and through Winnipeg to Canada's larger urban centres.

NATURAL RESOURCES

This section of the Background Study provides an inventory of the natural resources in the Louise Planning District area with information compiled in excerpts from a report written by the Dept. of Natural Resources entit ed "Planning Report on Natural Resources, Louise Planning District (Tech.ical Report 87-1)". The following aspects have been discussed in de ail: groundwater resources, surface water, outdoor recreation poten ial, forestry resources, fisheries, wildlife and Crown Lands.

7.1 WATER RESOURCES: GROUNDWATER

Groundwater is fairly readily available throughout the District. Well yield, however, is low and generally adequate only for farm and domestic requirements. Higher-yield aquifers suitable for municipal or moderate industrial requirements may occur at a few locations.

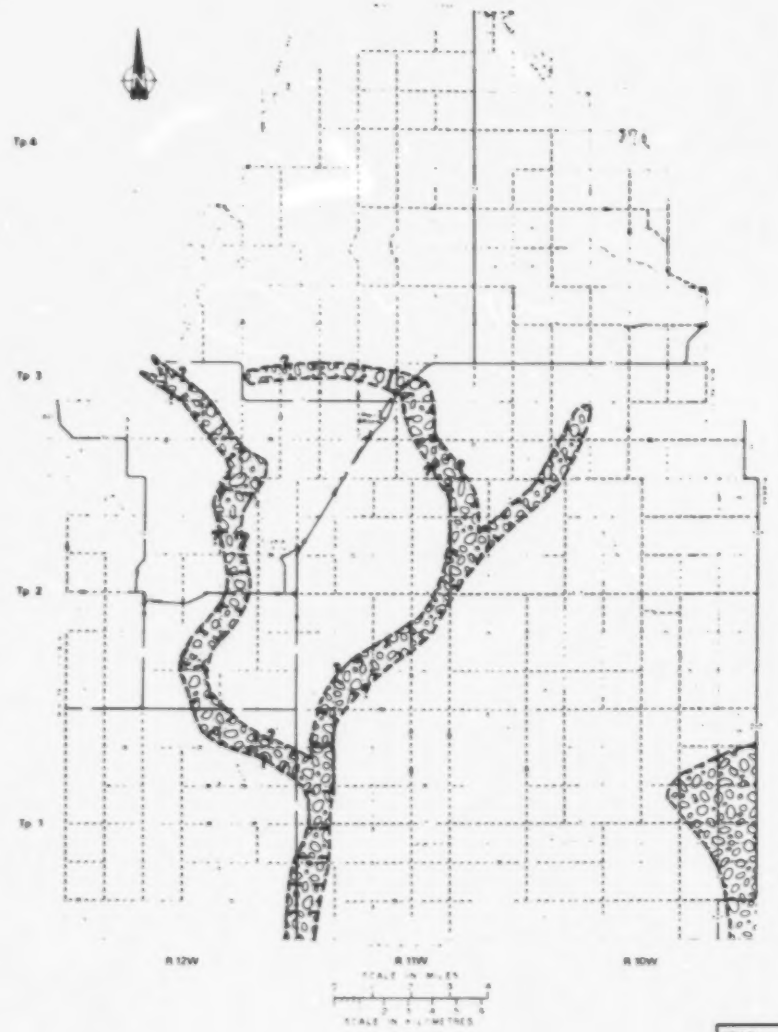
Groundwater quality in most of the District ranges from fair to saline. Good to excellent groundwater has been reported at a few locations. High sulphate concentration (more than 1000mg/L) and very high hardness is a common problem. The saline water generally is considerably softer than the high sulphate water and therefore it is more acceptable for domestic supply.

In most of the District, the only aquifers are fractured zones in the shale bedrock that underlies the District (Figure 1). Depth to the fractured shale aquifers ranges from a few meters to more than 60 meters.

Sand and gravel aquifers are fairly common in a small area in the southeast corner of the District and within buried bedrock valleys that occur in the District (Map 18). Depth to the sand and gravel aquifers ranges from a few to more than 70 meters. The deep aquifers occur in the buried bedrock valleys.

In extensive areas the shale bedrock is at or near ground surface. Because in these areas aquifers could be infiltrated by pollutants, they are classified as groundwater pollution hazard areas (Map 19).

The total groundwater supply in the District is adequate for present requirements and some future development. Groundwater is the principal source of water supply for domestic and farm requirements. Some of the aquifers developed for water supply are overlain by sufficiently thick low-permeability deposits to prevent pollution of the aquifers. However, in most of the District the materials that form aquifers are at or near ground surface and are subject to pollution. Consequently these areas are considered to be groundwater pollution hazard areas.



LEGEND:

FRACTURED SHALE AQUIFERS: The aquifers are formed by fractured zones in the shale bedrock that underlies the whole area. The depth to the aquifers ranges from a few metres (10-15 feet) to more than 60 metres (200 feet). Well yield ranges from 0.2 L/s (2.7 I.G.P.M.) to 3 L/s (40 I.G.P.M.) but generally is less than 1.0 L/s (13 I.G.P.M.). Water quality in the shale aquifers ranges from good to saline. The water quality varies considerably from place to place within short distances and with depth. Poor quality water with high sulphate and salt concentrations and high hardness is fairly common. The saline or slightly saline waters, which are common in deeper aquifers, generally have low hardness and therefore are more acceptable than the high sulphate and hardness waters in the shallower aquifers.

SAND AND GRAVEL AQUIFERS: The aquifers are formed by lenses of sand and gravel in the surficial deposits. The area of the aquifers may range from less than a hectare (1 acre) to hundreds of hectares (1 acres). Sand and gravel aquifers are fairly common in the buried bedrock valleys that exist in the district. Well yield generally is less than 1.0 L/s (13 I.G.P.M.). Water quality ranges from good to slightly saline. High sulphate concentration and high hardness are fairly common.

BURIED BEDROCK VALLEY: The boundaries of the valleys are approximate in general and probable where indicated with question marks. The depth of bedrock valleys is more than 70 metres (230 feet) below ground level in the southern part of the district.

MAP 18

DRAWN: M. M	Manitoba Natural Resources Water Resources	LOUISE PLANNING DISTRICT AQUIFERS 78
CHECKED:		
PREPARED: M. Rutulis	SUBMITTED: [signature] APPROVED: [signature]	SCALE: AS SHOWN; DATE: 86 11 21; SHEET: 2 OF 3; FILE NO: 10-1-7-1232

LEGEND:

GROUNDWATER POLLUTION HAZARD AREA

NOTE: Detailed field investigations may show that groundwater pollution hazard does not exist in some of the areas or parts thereof shown on the map.

MAP 19

DRAWN M. M.	Manitoba Natural Resources Water Resources	LOUISE PLANNING DISTRICT	
CHECKED		GROUNDWATER POLLUTION HAZARD AREAS	
PREPARED M.Rutulis	SUBMITTED / APPROVED	SCALE AS SHOWN / DATE 86 11 21 / SHEET 3 of 3	FILE NO 10-1-7-1232

7.2 WATER RESOURCES: SURFACE WATER

The Louise Planning District is situated in the Pembina River Drainage Basin. Surface runoff flows in a northerly direction into the Pembina River which forms the north boundary of the District. Flooding is primarily restricted to the Pembina Valley and lands immediately adjacent to other creeks and rivers. Localized drainage problems and potholes may limit development in other areas of the District. Valley embankments and shorelands may be subject to bank stability and erosion problems, especially if improperly developed.

Swan Lake, on the Pembina River, is located partially in the District. Along with Pelican and Rock Lakes, this lake has been the subject of much discussion regarding water quality and water levels. There are presently proposals to raise the lake level to enhance conditions for fish, wildlife and recreation, but at this point no decision has been made to proceed with any option.

Most waterways are under municipal jurisdiction. There is a total of seven miles of provincial waterway in the District. There are dams and reservoirs on the Pilot Creek at Pilot Mound and Crystal Creek at Crystal City which are under provincial jurisdiction. Surface drainage systems have been shown on Map 20.

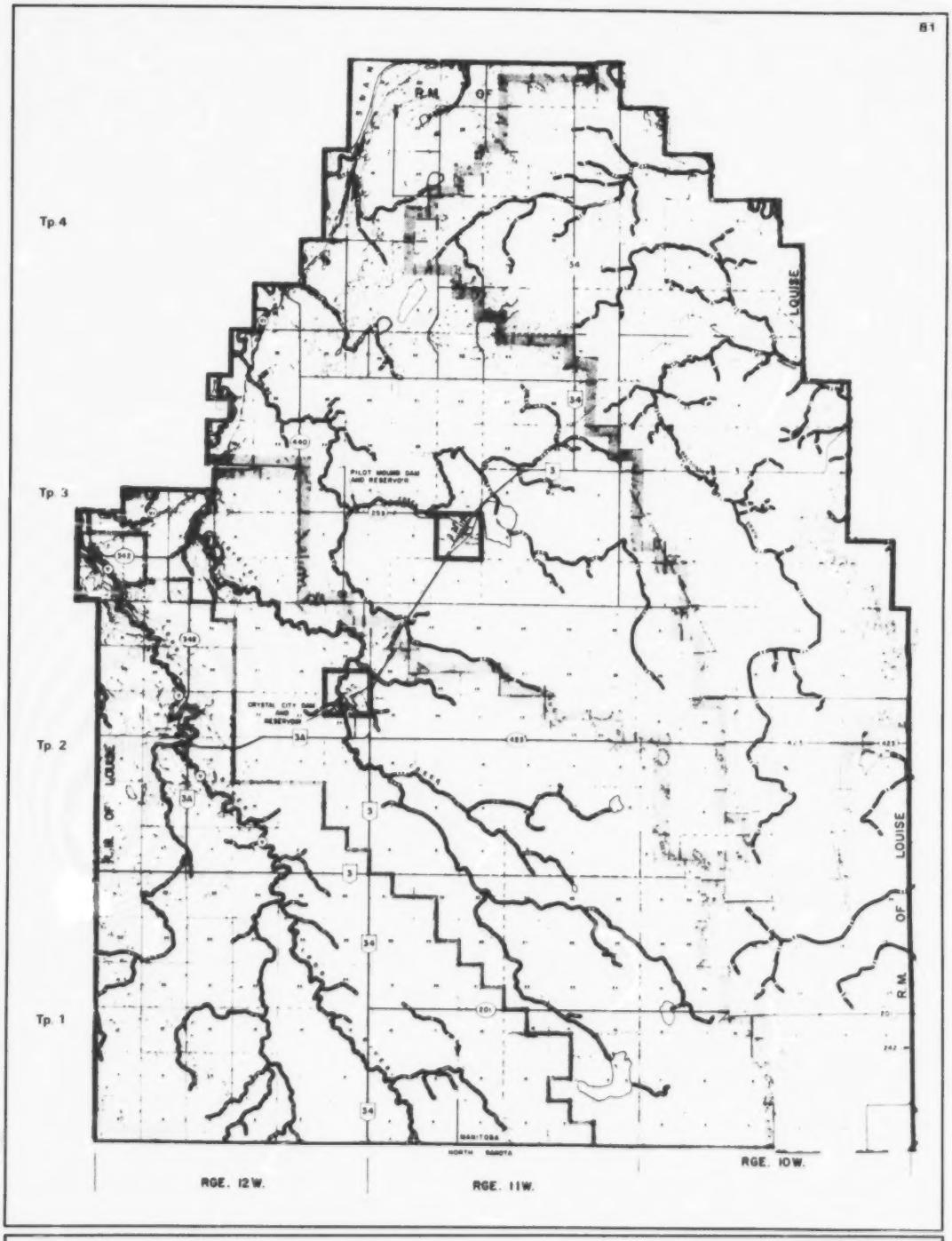
The Department of Environment and Workplace, Safety & Health has indicated that "the quality of surface water has the potential to become degraded through many legitimate but conflicting uses such as the disposal of industrial and municipal effluents, development of hydroelectrical generating sites and land use practices such as agriculture and forestry." They have developed Manitoba Surface Water Quality Objectives which "define minimum levels of quality for each of the uses that requires protection to ensure that water uses will not be unacceptably impaired".

7.3 OUTDOOR RECREATION

There are no Provincial Parks in the Louise Planning District but the nearby parks of Spruce Woods, Rock Lake and Turtle Mountain provide opportunities for outdoor recreation in close proximity to the Planning District.

The system plan for Manitoba's Provincial Parks identifies the Pembina River corridor as a potential Provincial Recreational Trailway. Potential exists for a series of trails along the river valley that will provide people with opportunities to experience and appreciate this outstanding part of Manitoba's landscape.

The suitability of land for outdoor recreational activities has been estimated by Canada Land Inventory (CLI) (Map 21). This survey found no lands in the District which had "high" or "very high" capability for these pursuits. However, lands in a section near La Riviere (26-3-10W) was seen to have "moderately high capability" for outdoor recreation due to the slopes, specifically downhill skiing and viewing, with associated camping. The sections to the north of this (29 to 36-3-10W and 3 to 5-4-10W) contain lands which have "moderate capability for outdoor recreation", specifically viewing, camping, nature study and outdoor recreation.



Map 20
Surface Drainage Systems

LOUISE PLANNING DISTRICT

LEGEND

WITHIN LOUISE

- 1st ORDER DRAINS
- 2nd ORDER DRAINS
- 3rd ORDER DRAINS
- 4th ORDER DRAINS
- 5th ORDER DRAINS
- 6th ORDER DRAINS
- 7th ORDER DRAINS

LIMITS OF DRAINAGE AREA

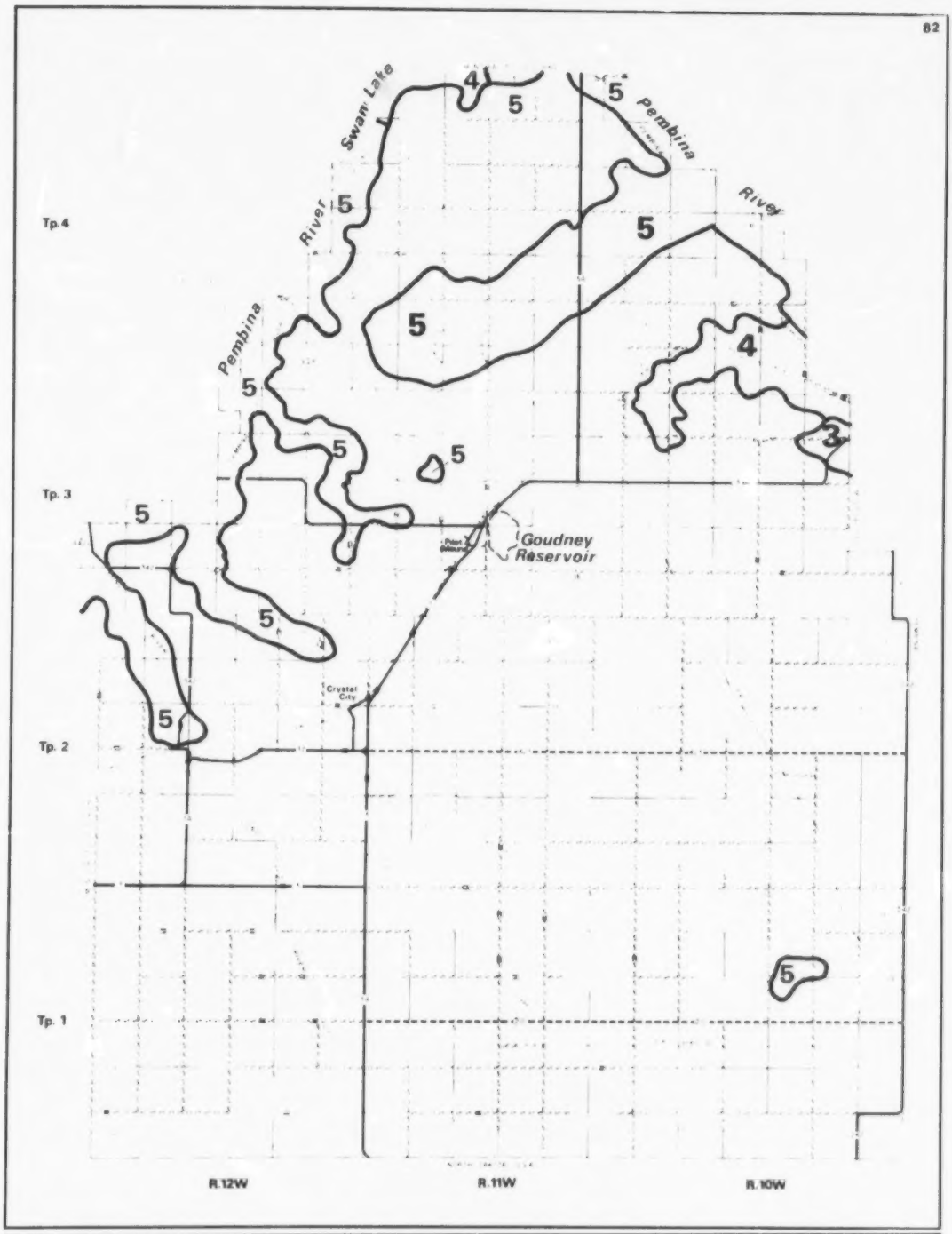
CITY, TOWN AND MUNICIPAL BOUNDARIES

PROVINCIAL TRUNK HIGHWAYS

PROVINCIAL ROADS

SCALE IN MILES

SCALE IN KILOMETRES



MAP 21
Fisheries Habitat & Recreation Capability*

LOUISE PLANNING DISTRICT

5 Recreation Capability

Fisheries Habitat - Pembina River
- Swan Lake
- Goudney Reservoir

*Canada Land Inventory

Along the south shore of Swan Lake are lands which have a "moderate capability for outdoor recreation", specifically for swimming, boating, camping, and recreational lodging.

The rest of the District is classed as having "moderately low" or "low" capability, for such activities as hiking, nature study, and the like. Some particular sites, such as Nebogwawain Butte, and Pilot Mound in SE 20-3-11W, have been identified as having an historic or prehistoric significance.

Virtually none of the lands having higher than a "low" capability for outdoor recreation are Crown, but those which do fall into the higher classes have already been set aside as Wildlife Management Areas. Therefore, the lands in the District which have a better suitability for outdoor recreation are very limited in area, and are almost entirely in private hands.

7.4 FORESTRY RESOURCES

The Louise Planning District lies within the Aspen Parkland Forest Section, specifically Forest Management Unit 04 as defined in the 1980 Manitoba Forest Inventory Classification System. The forest inventory on the area was completed in 1982. Both Crown land and private land forest inventory information is available and could be obtained by landowners in the area.

For areas in close proximity to population centres, landowners with forested land on their holdings might consider growing trees as a crop, such as fuelwood for example. This is particularly true for land unsuitable for other agricultural purposes but still capable of supporting tree growth.

While trees and forests have value as a renewable cash crop, their presence is valuable in other ways. These include control of precipitation runoff and retarding snow melt to lessen flood risk, erosion control both water and wind, a habitat for wildlife, and recreation opportunities for people. Furthermore, forest harvesting operations can be done in a manner that will enhance all forest values; however, it is essential that fire be kept out, destructive grazing be avoided, and any utlization or disposal of elm trees be in conformance with The Dutch Elm Disease Act and Regulations.

7.5 FISHERY RESOURCES

Fisheries potentials in the Planning District are limited by shallow waters and intermittent streams that are prone to fish die-offs. The most significant fisheries waters are Goudney (Pilot Mound) Reservoir, the Pembina River and Swan Lake (Map 21).

Goudney Reservoir

This 22 hectare (55 acre) reservoir was constructed by P.F.R.A. in 1964 on the Pilot Creek drain. It has a maximum depth of 5 meters (17 feet) and a volume of 550 decameters (450 acre feet) at a full supply level of 451.8 meters (1482 feet).

Brook and rainbow trout were stocked in 1966. By 1968, winter dissolved oxygen levels were declining and subsequent stocking, between 1969 and 1975, involved northern pike and perch which are more tolerant to low oxygen levels. Winterkill occurred in 1970, 1974 and 1975. Due to these persistent fish die-offs no fish were stocked between 1976 and 1983. The installation of an aeration system in early 1984 allowed the reintroduction of trout (rainbows and browns), walleye, perch, largemouth bass and black crappie. In 1986, small norther pike were discovered in the reservoir. The source of this stock in unknown.

Most of the small drainage area of 135 square kilometers (52 square miles) is surrounded by tilled cropland and pasture. Cattle are allowed direct access to the reservoir and its tributaries. Reservoir waters are nutrient rich and, before 1984, diminished midsummer and late winter water quality often impacted fish survival and domestic water use. Winterkills were usually severe while summer stagnation could occasionally affect the lower half of reservoir volumes.

In 1984, an aeration system was installed in the reservoir through the joint participation of the Provincial Fisheries Branch, Manitoba Water Services Board, and the Pilot Mound and District Chamber of Commerce. The system has effectively reduced summer stagnation and winterkill problems.

The introduction of northern pike is unfortunate. This species is an effective predator, especially in small waterbodies, and will likely prevent the effective introduction of more desirable sport species.

Pembina River

In high flow years, northern pike, suckers and carp are known to move up the Pembina River and repopulate upstream lakes and the river itself. Most stocks likely originate from the Red River and/or dammed areas along the river. Deeper areas of the Pembina, in Manitoba, reportedly hold up to 3.8 meters (12 feet) of water which, in some years, may be sufficient to overwinter fish. Small scattered springs and some beaver dams may help to maintain a minimal winter flow which can aid fish survival. In low flow years upstream fish movement is negligible.

Winterkill is likely if lack of snow allows deep ice conditions to develop on the river. This can result in ice freezing to the bottom in shallower areas which isolates fish in the deeper holes. Any water flow is forced to the surface, resulting in surface flooding of the ice and a lack of oxygenated water in the deeper fish holding areas. Also, in low flow years, a lack of flow and low water levels will often allow winterkill and summerkill to develop.

Some areas upstream of Swan Lake are deeper than Swan Lake. In some years, fish remaining in the river or escaping to the river from Swan Lake, have a higher probability of survival than those trapped in Swan Lake. Winterkills do occur, however, in the Rock Lake-Swan Lake reach.

Northern pike and bullheads are the major Pembina River sport species. In some years suckers are abundant and dipnetters are active during the spring spawning run.

Swan Lake

Swan Lake is a large 1295 hectare (3200 acre), shallow; 2.1 meter (7 feet), fertile waterbody with a volume of 11,800 decameters (9,600 acre feet) at an elevation of 398.5 meters (1307 feet). (Water elevations vary widely.)

Winterkills are very common and fish repopulation is dependent on upstream or downstream movements. Angling success is dictated by rare overwinter survival, natural reproduction and the number of fish moving through the system. Pike and bullheads dominate the catch.

Fish gather near a springfed creek on the north shore when winterkill threatens. Occasionally, Fisheries Branch has recovered pike from this area for transfer to non-winterkill waters. Local anglers also fish and dipnet at this time. The fish are attracted to the area by water movement and higher dissolved oxygen levels.

Other Waters

In 1962, P.F.R.A. constructed a small 5 hectare (12 acre) reservoir at Crystal City. Maximum depth is about 3 meters (10 feet). This reservoir has never been stocked by Fisheries Branch because winterkill conditions develop almost every winter. Minnow species, such as sticklebacks and fatheads, are able to survive as they are very tolerant of very low dissolved oxygen levels.

Pembina River tributaries such as Pilot Creek, Crystal Creek and Long River are too shallow and too intermittent in flow to support permanent fish populations. In high flow years, fish from the Pembina reportedly move a short distance up these tributaries and, as such, can serve as spawning and rearing areas for newly hatched fry.

Waters within the Planning District are shallow, enriched and adjacent to agricultural activities. Intermittent flows, erosion and siltation, nutrient loading and drainage have affected water quality and fish stocks along the Pembina River and its tributaries. Any factors that adversely influence water quality or quantity can adversely influence fish populations.

7.6 WILDLIFE RESOURCES

This Planning District falls entirely within the Manitou-Clearwater Prairie Area, a natural landscape area of south-central Manitoba.

There are many small tributary creeks and ravines which enter the southern slope of the Pembina Valley which add to the variance in topography and to the overall value for wildlife of the area, since these ravines and valley slopes are generally forested heavily with aspen and oak and many understory shrubs and plants.

Of the approximately 10 townships within the Planning District, an estimated eight townships have been given an agricultural capability classification of Class 2. The best land for wildlife, to some extent by default, are the many ravines and stream tributaries and the Pembina River Valley itself (Map 22).

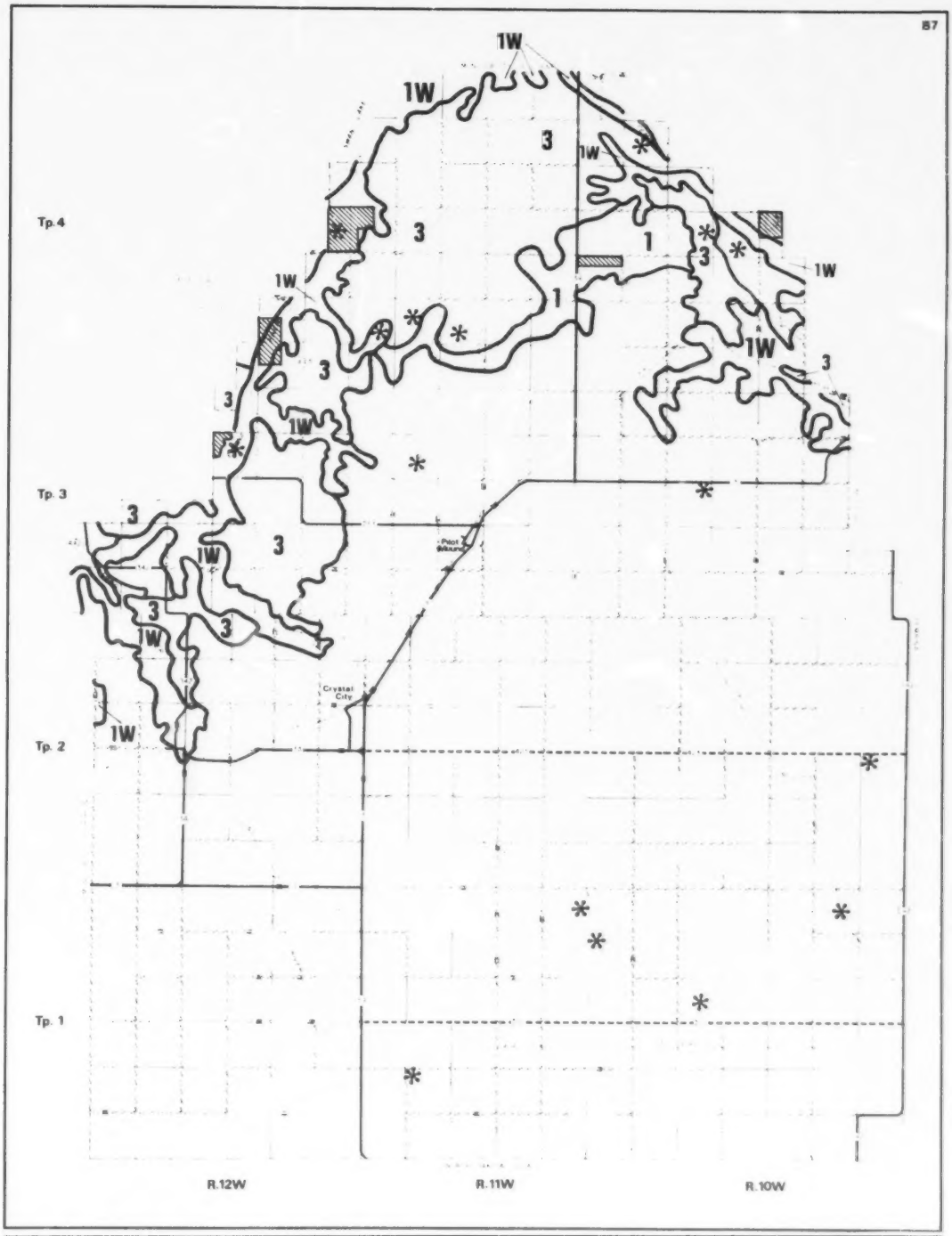
Population surveys for this District of all species of wildlife are generally unavailable, but subjective comments on the relative abundance of groups of species or individual animals follows.

White-tailed Deer

Canada Land Inventory ungulate capability maps for this area rate most of the land in the District as quite poor for while-tailed deer (Class 6). This is largely due to the lack of relief and interspersion of cover and habitat. This classification is probably a very real reflection of existing land use; very little habitat remains in the good agricultural portion of the District. Conversely, the ravines and tributaries of the Pembina River and the valley slopes are rated very highly (Class 1) and serve as key wintering areas for white-tails. The areas north of Wood Bay and northwest of Crystal City are rated Class 3 for deer, largely due to the terrain, remaining cover and greater land and habitat diversity. Wintering populations of deer depend on these slopes and rougher areas during winter months, since they constitute the largest blocks of habitat remaining in the District. In most winters, deer from the farmland to the south migrate north to these treed areas for protection from the winter weather. The capacity of some of higher-rated lands for ungulates could be reduced by intensive cattle grazing, which lowers the likelihood of deer survival by intensifying competition for forage plant species.

Moose and Elk

Populations of these two large ungulates are exceptionally small in the District and perhaps transitory in nature. In recent years, more frequent reports of both species have been received from the area. These animals, if any exist today in the District, are likely to be associated with the treed areas along the Pembina River. Moose that wander into the area likely come up the Pembina River from North Dakota. Elk probably emigrate from the Spruce Woods area to the Tiger Hills and then to the valley. It is unlikely that either species will ever establish itself in significant numbers here.



Map 22

C.L.I.* Ungulate Capability, Wildlife Management Areas & Ducks Unlimited Projects.

LOUISE PLANNING DISTRICT

3 *C.L.I. Ungulate Capability

Wildlife Management Area

* Ducks Unlimited Project

*Canada Land Inventory

Waterfowl and Wetlands

Most of the District has been rated poor or mediocre for waterfowl production. Swan Lake is considered as a staging area for migrating waterfowl. Waterfowl nesting habitat and wetlands are scarce in much of the District because of the terrain and high agricultural use.

There are a few large lakes or ponds in the northern part which probably play a minor role in waterfowl production, several of which might exceed 100 acres in size. There is probably some duck production along the Pembina River but the valley is not highly rated. Several attempts to enhance waterfowl production have been made on Wildlife Management Areas in the valley by joint Ducks Unlimited-Manitoba Natural Resources projects.

Furbearers

A variety of furbearers are found, dependent on habitat availability. Most of the larger ponds or wetlands have muskrats occupying peripheral marsh cover. Beaver occur in most of the ravines and in the river valley and wherever water supplies are sufficient for colony establishment. Mink are certainly found in association with marshes, streams and the river. Coyotes and red foxes are found in areas of rougher terrain and to a lesser extent in the open farmland. Both species generally appear to be on the increase in recent years. Other species such as red and gray squirrel, weasel and badger are associated with areas of treed terrain and pastures.

Upland Game Birds

Hungarian partridge are found generally in association with agricultural fields and small acreages of cover in the intensively farmed area. Sharptailed grouse are not common since habitat is generally fairly scarce. Ruffed grouse are limited to the treed areas of the valley and rougher terrain. The wild turkey, an introduced species, is found in the valley and associated uplands, generally in reasonable proximity to farmsteads.

Nongame Species

With the variance of terrain and topography, it is expected that a great many species of nongame birds and animals are present. Information on the relative abundance of any species is virtually unavailable. No rare or endangered species of animal or bird is known to be present in this area. The treed slopes of the Pembina Valley offer good nesting habitat for birds of prey, and it is expected that a reasonable number of these birds nest in or near the valley.

Wildlife Lands

There are five units of the Pembina Valley Wildlife Management Area within the District, all lying in or close to the Pembina Valley. Together, the Wood Bay, Floral, Grassy Lake, Marringhurst and Stuartville Units total approximately 3400 acres. There are no wildlife refuges in the District.

The Manitoba Wildlife Federation owns approximately 294 acres of land on 30-4-10W. Ducks Unlimited (Canada) has a total of 16 projects, some of which are on the W.M.A. units, the remainder occurring on private land. These projects are listed by name and legal description as follows:

Name	Location	Name	Location
Blackburn	5-4-11W	Robertson	SE 20-1-10W
Deliechte	NW 22-3-12W	Norton	E½ 35-1-11W
Signet	SE 6-4-11W	Harms	NW 25-1-11W
Floral	E½ 13-4-12W	Neufeld	NW 8-1-11W
Balfours	S½ 4-4-11W	Creith	NW 13-2-10W
Kathleens	20-3-11W	Hammond	NE 17-3-10W
Grassy Lake	30-4-10W	Wood Bay	E½ 17-4-10W
Booker/Brown	E½ 35-1-10W	Tom	S½ 16-4-11W

The most notable, or at least quantifiable, use of wildlife is by sport hunters, particularly deer hunters. Local deer hunters have been quite vocal in past years on the issues of deer seasons, trespass problems, habitat loss, and related matters. Many of these concerns have been dealt with and resolved by the Department. Many rural and town residents of the District enjoy a variety of wildlife species in the District.

Wildlife problems in this area are generally minor and only of periodic concern to residents and the municipality. Waterfowl depredation on cereal crops is generally light and not considered a major problem by Natural Resources Officers. Big-game damage to cereal and forage crops, particularly during winter months, tends to be minor with only periodic complaints registered with the Department. Nuisance beaver problems are also minor, probably since they do not have sufficient habitat in which to establish colonies away from the tributary ravines of the valley. As a result, damage to roads, culverts and pastures tends to be minor in comparison to other municipalities. No other concerns about wildlife have been brought to the attention of Department staff by local residents.

7.7 CROWN LANDS

This section describes the Crown Lands in the Planning District, providing an inventory of Crown Lands and present commitments. Additionally, this section will discuss the authority for Crown Lands, the legal aspects thereof and the planning and administration of Crown Land.

Crown Land, for the purposes of this section, is defined as all land under Order-in-Council designated as: Provincial Park, Provincial Forest, Ecological Reserve, Wildlife Management Area, and Community Pasture, plus all other land administered by Manitoba Natural Resources and Manitoba Agriculture under The Crown Lands Act. In addition, all waterbodies, streams, rivers, and creeks are considered Crown Lands except where original title has confirmed the lake bed or stream bed to an individual.

The actual management and administration of Crown Land is shared between two departments of government, Manitoba Natural Resources and Manitoba Agriculture. Agricultural Crown Lands has been assigned the functions and related administration pertaining to the issuance of agricultural leases and permits of occupation or use of these Crown Lands which are designated as:

1. primarily agricultural lands, and

2. multiple use lands which may only be used for agricultural purposes on an interim or secondary use basis, subject to specific conditions and covenants required by other resource users.

The principle responsibility for Crown Land remains with Manitoba Natural Resources, which administers The Crown Lands Act excepting those specific sections under the responsibility of the Minister of Agriculture.

Crown Land is exempt from The Planning Act and is under the jurisdiction of the Manitoba Government as governed by various acts of the Legislature.

The classifying as to use of Crown Land in the southern portion of the Province is the responsibility of the Crown Land Classification Committee (CLCC). This is an Interdepartmental Committee with representation from Manitoba Agriculture, Natural Resources, Northern Affairs and Municipal Affairs. The CLCC reports to and receives their direction from the Provincial Land Use Committee of Cabinet.

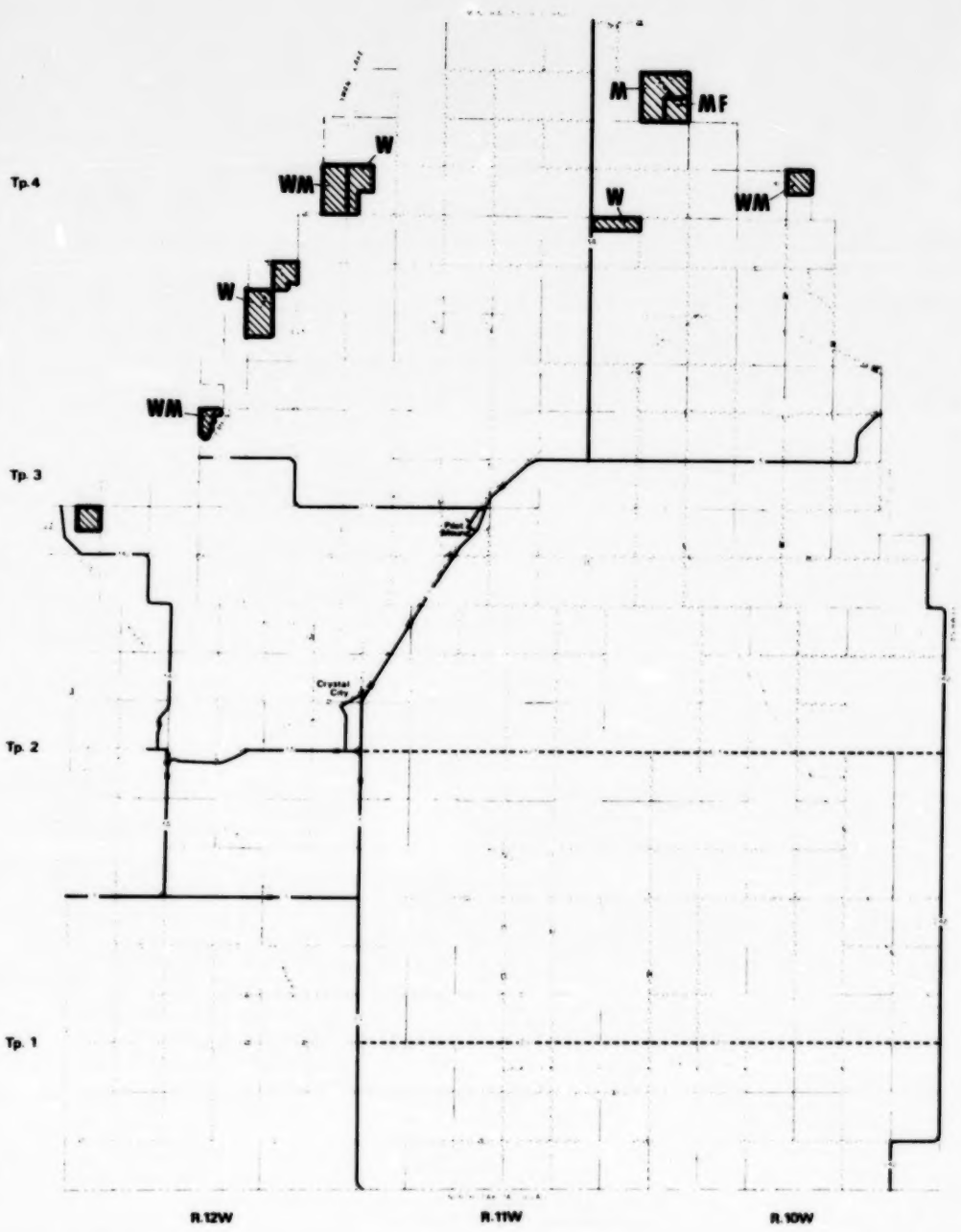
In carrying out this responsibility, the CLCC has established Bloc Planning Committees (BPCs). These BPCs have regional representatives from Manitoba Agriculture, Natural Resources, Northern Affairs and Municipal Affairs. The BPCs provide field recommendations, in effect, providing to the CLCC preliminary land use plans for their consideration of Crown Lands. They are not, however, final plans. The Crown Land Classification Committee requires that all such plans must be reviewed and commented on by Local Councils and/or Planning District Boards. It is only after such review and appropriate adjustment if necessary, that a final Crown Land plan is prepared.

In the Louise Planning District there are approximately 910 hectares of Crown Land, constituting approximately 0.9 percent of the land base of the District (Map 23). Most of these lands (586 hectares) are committed to wildlife purposes by Order-in-Council inclusion in Wildlite Management Areas. A large part of these lands are also under Miscellaneous Lease to Ducks Unlimited for waterfowl habitat enhancement work. Of the Crown Lands not committed by Order-in-Council, an additional 259 hectares are under Miscellaneous Lease to Ducks Unlimited, 64 hectares are in Wildlife reservation, 0.5 hectare is in Water Control Work. One parcel (65 hectares) is also committed via a Forage Lease to agricultural purposes.

7.8 SUMMARY

The following are the major concerns/objectives which have been expressed by the Department of Natural Resources:

- the overall concern with groundwater resource management is protection to assure adequate supply for existing users and for potential development, and pollution prevention in groundwater pollution hazard areas
- to ensure the survival or improvement of fish stocks, subject to the effects of natural environmental changes and approved man-made environmental changes
- to effectively manage and protect forested lands, and to maintain and enhance the overall benefits accruing from the forest resource
- land of high quality for outdoor recreational purposes is very limited in the District, so that care must be taken to minimize disruption or damage engendered by conflicting uses or developments on adjoining lands. Insufficient regulation of such conflicts can result in temporary or permanent degradation of the District's recreational resources
- the right of public access to outdoor recreation opportunities must be ensured therefore major road corridors to recreation areas should be identified and afforded protection from environmental and aesthetic degradation
- to maintain wildlife populations at existing levels particularly on poorer lands and to maintain wildlife habitat on private land, unused road allowances and Crown Land.



Map 23

Provincial Crown Lands (Dec. 1986).

LOUISE PLANNING DISTRICT

Crown Lands
W Wildlife Management Area
M Miscellaneous Lease
F Forage Lease

APPENDIX A

The Nominal Group Technique is a method for assisting a group, such as a council or a board, to deal with a complex question involving a number of answers. At the meeting on October 9, 1986 the Louise Planning District Board was asked the following question:

> WHAT ARE THE ISSUES AND OPPORTUNITIES WHICH SHOULD BE DEALT WITH IN THE DEVELOPMENT PLAN OF THE LOUISE PLANNING DISTRICT?

Through the Nominal Group Technique, the Board was able to arrange the answers to this question on the basis of their overall importance to the group. That is, different members may have held diffirent views about the relative importance of the issues, but when the opinions of the whole group were considered, "protection of agricultural land" was the most important issue. Therefore, the following is a priorized list of issues for the Louise Planning District, as seen by the District Board:

1. protection of agricultural land
2. economical expansion and upgrading of services - sewer/water/roads
3. getting new industry and keeping younger people here
4. control of our surface water resources
5. orderly planning of residential and business area
6. direction for municipal services to a declining population
7. zoning control of livestock operations
8. placement of buildings re: roads - setbacks and location
9. guidelines for subdivisions
10. co-ordination of services between R.M. and Villages
11. protect and improve rivers and lakes
12. communication between Hydro/M.T.S. and R.M./Villages re: buried cable
13. co-ordination of recreation facilities for whole District
14. control location of business - rural
15. control and planning of nuisance grounds - pollution problems
16. revising building inspection and permit rates
17. clearing bush on steep slopes and marginal land
18. control of dangerous goods

Other Louise District Planning Issues

- shortage of houses and serviced lots
- shelterbelts for erosion
- multiple-family housing
- providing and improving sewer and water services
- international drainage problems
- protecting unused road allowances for conservation and wildlife
- irrigation

Although the "other" issues are not priorized they are still valid issues to consider in the Background Study and the Development Plan.